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Vol. XVII. No. 1 JANUARY 1946 Price A

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EFFICIENCY NEWS

Vol. XIII. No. 1 JANUARY 1946

THE MARCH OF TIME

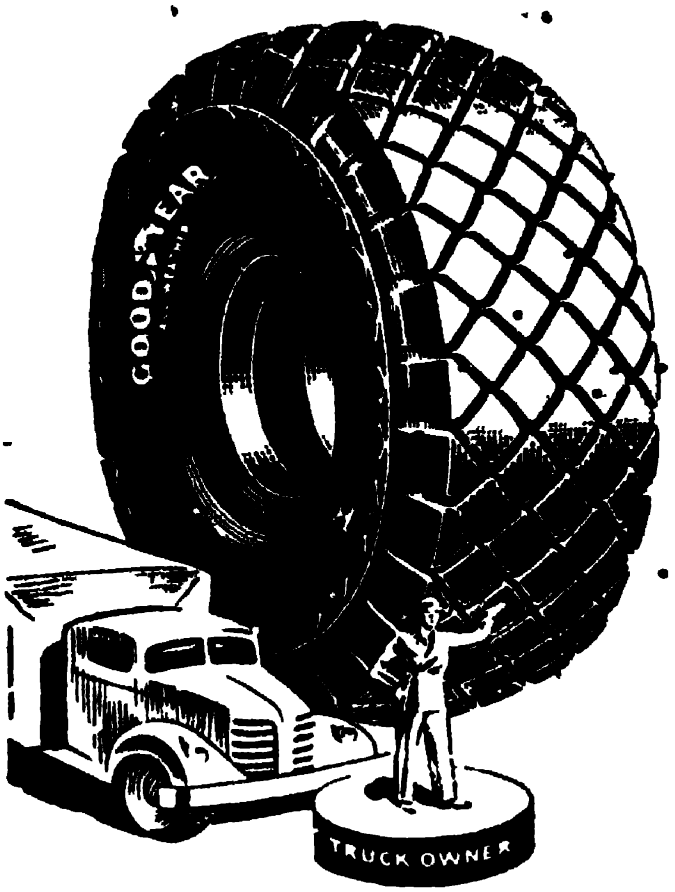
POST-WAR planning was the keynote of 1944. During 1945, the same important work claimed our first attention—until, with a clap of atomic thunder, World War II came to an abrupt end. Curiously enough, after nearly two whole years of planning, both Government agencies and private bodies were taken somewhat unawares by the sudden dawn of peace. But the jolt was necessary, because there was a growing tendency to set aside urgent problems in favour of excessive speculation about post-war developments. The dramatic collapse of Japan had the desirable effect of diverting our energies into more practical channels.

What will be the fate of the innumerable plans—both official and otherwise—formulated during the war-years? Will they speedily transform India into a great industrial nation with a standard of living comparable at all with that of the West? Or will we fail to profit by the costly experiments and experiences of those industrially advanced nations and allow their history to repeat itself in India? The answer to these vital questions lies in our own hands. Rich in natural resources and manpower, we enjoy many enviable advantages over our western allies. Not the least of these is that we do not have to suffer the difficulties and disappointments which are the lot of all pioneers. All we have to do is to study the industrial progress of other nations, and to adapt their methods to suit our own conditions.

But whatever happens, one thing is certain: that our progress, like the progress of other countries, will depend upon the quality of personnel we can muster to initiate, control and work our proposed enterprises. Exactly a year ago today, we laid editorial stress on this very point. We insisted that our most urgent problem was the training of millions of men in the various trades and professions. During the past year, Government and private organisations have sent hundreds of Indians to the U.K. and the U.S.A. for specialization in a variety of subjects. We hope this good work will continue for many years to come. But the number of persons who can be sent abroad is necessarily limited. What India needs urgently are scores of up-to-date scientific and technical institutions within the country to serve as a reservoir for trained personnel.

Here again Government have helped by establishing a number of institutions for the training of demobilised personnel. This is a step in the right direction, and one which must be followed up on a wider scale. At least some of our trainees must, on their return from foreign universities and institutions, devote themselves to the vast task of providing technical training to industrial staff and workmen.

Government's efforts to provide facilities for technical training in India have recently been given concrete expression by the institution of an All-India Council for Technical Education. Among other things, it is expected that this Body, which includes non-official representatives of industries, commerce and labour, will co-ordinate and direct



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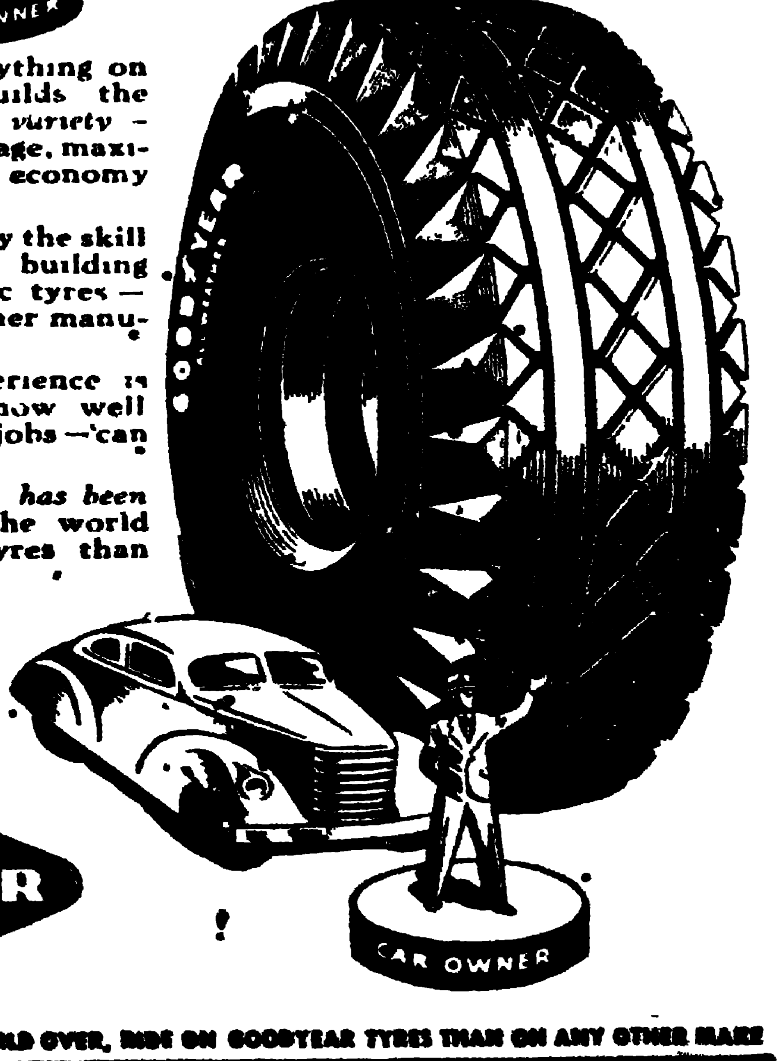

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the country's activities in the field of technical training in accordance with India's immediate and prospective industrial requirements.

The need of the moment—efficient personnel—was reflected throughout the past year in EFFICIENCY NEWS. The selection, training, placement, and development of executives and employees, and other allied subjects were discussed in the Association's journal month after month. Nor was the Association's original field of activity overlooked. The conservation of life and property in every sphere of human activity received its full share of attention during the eventful year which has just ended.

One of the major highlights of the period under review was the appointment by the Government of Bombay of three Panels to make recommendations with regard to the planning of Greater Bombay. The Honorary Joint General Secretary of this Association was privileged to serve as Chairman of the Communications Panel, and also to serve on the Housing and Town Planning Panels. The first two Panels have already completed their Reports and submitted them to Government. The Report of the Town Planning Panel will probably be sent in by the time this is in print.

Another highlight of the past year was the formation of the Efficiency Club of India. This came about as a result of the Efficiency Course conducted last September by the Safety First Association of India. Many of the executives present at this course made a proposal that an Association of business and industrial executives should be formed in order to facilitate an exchange of ideas between various organisations in this country. The proposal received the support of all those present and the Efficiency Club of India came into existence a month later.

All these past activities and our plans for 1946 will, we hope, contribute to better standards of organisation and management in this country. Industrial expansion means little if it does not mean also an expansion of industrial efficiency. That is why in wishing our members and readers a HAPPY NEW YEAR, we dedicate ourselves anew to the cause of efficiency—*Time Marches On.*

QUALITIES OF A TOP SALESMAN

The Bulletin of Canada's Great-West Life cites the following characteristics of the successful salesman as compiled by one of the largest employers of salesmen in the country:

1. He does not argue or contradict his prospect.
2. He does not deliver a speech; he illustrates his conversation.
3. Never puts questions that may call for a "No".

   Never speaks against his competitors. Slowly but surely proves the advantages of his own product. Speaks of the qualities and advantages and does not dwell on prices.

6. Never smokes when calling on a prospect, unless he is invited to do so.
7. Wears nothing too original which may distract prospect's attention.
8. Never speaks doubtfully, but with authority of a man who knows.
9. Never raises his voice, especially at the closing.
10. Does not use high pressure selling.
11. Does not fear competition—that may lead him to success.
12. Does not forget the value of frequent, useful and energetic visits at opportune times. The law of averages is inexorable.
13. Never wastes his time; he works his territory methodically.
14. Does not stay home on rainy days—his prospects are there, and there are not so many visitors.
15. Never lacks confidence in himself, his product and his Company.

—*The Insurance Salesman.*

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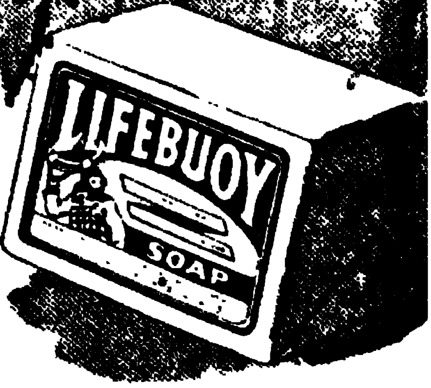

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MEDICAL AND HEALTH EXAMINATION

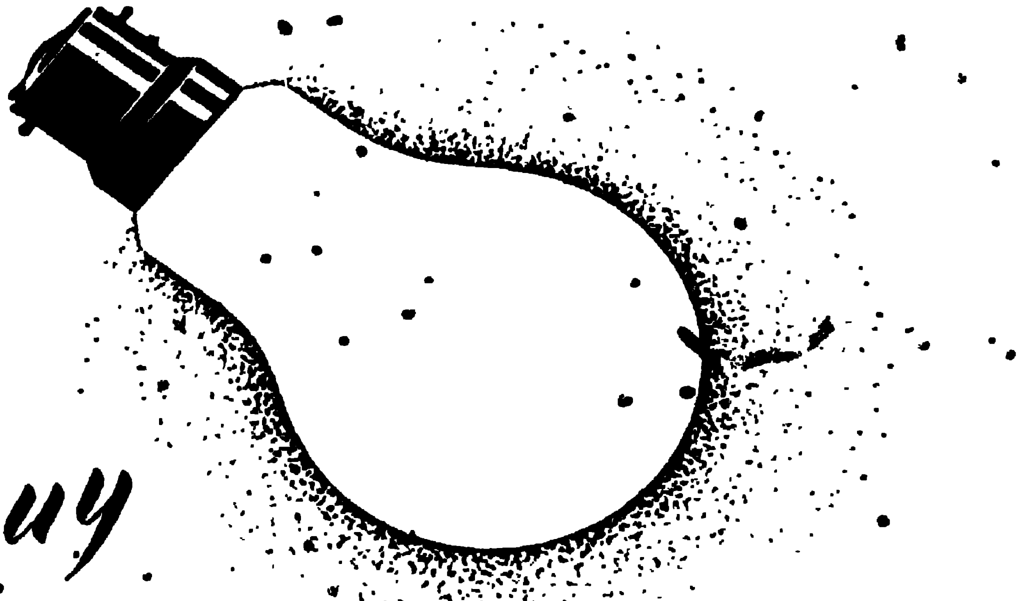
By the late Dr. I. N. A. Moos, M.D. (Lond.)

It is an accepted principle in the case of most modern industrial and commercial organisations to have all prospective employees examined medically before engaging them. The purpose of these medical examinations is (a) to protect the organisation against the introduction of contagious diseases; (b) to prevent the employment of workmen so handicapped by ill health or physical defects as to be a menace either to themselves or to their fellow employees; and (c) to ensure that workers are placed in positions for which they are best suited. It need scarcely be feared that only the most physically fit will find employment under this system. Very few applicants indeed are so unfit physically that their services cannot be utilized in the different organisations that flourish in this country or even in the different occupations available in the same organisation.

India, unfortunately, is somewhat backward in this vital matter of medical and health examinations. It is true that in certain occupations it is usual to have employees' eyes examined periodically to determine if they have the proper degree of vision to enable them to work without endangering the lives of others or their own. In a few other cases, men who have been ill over an extended period are permitted to resume their duties only after they have been certified to be medically fit. But that is almost all. Very few organisations here have any system of periodical health examinations to assist their employees in preserving their physical fitness by timely warning of any impending disorder. Many workers also have mistaken ideas about these examinations; they often look upon them as convenient expedients used by management for getting rid of surplus or troublesome members of the labour force.

As regards the preliminary examination, it is a cursory or haphazard affair in many firms, particularly in this country. The initial examination is conducted not so much with the purpose of furnishing information which may serve as a basis for the correction of physical defects or faulty habits of life, but merely to sift in a crude manner those who are physically fit from those whose defects exclude them from any employment whatsoever. It will be admitted that more than superficial examination is necessary to disclose the information required as a foundation for proper medical counsel. Such examinations can only be made after the applicant has been employed by the organisation, and it is then in the interests of the employer to retain in his firm a person who has been trained up in the establishment and whose services are of some value.

It is not only those who feel below par physically who stand to profit by periodical health examinations, but also those who enjoy normal health, for the latter need to safeguard their good health through the recognition of disease in its very earliest forms, so that they are able to take timely steps to eradicate any disease, defect, or disorder before it becomes serious enough to impair their efficiency and endanger their lives. It is common knowledge that many people die each year from diseases which, if disclosed in their early stages, could have been checked. Employees are partly to blame



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for this; for they frequently resort to outside medical aid instead of going to their firm's doctors who are in a better position to make a correct diagnosis with the help of their case histories.

Once employees are convinced of the benefits of periodical health examinations, they will be eager to assume the responsibility of safeguarding their health. When warned in time, only the most apathetic will neglect to take steps to put matters right by securing timely medical advice and treatment in the dispensaries provided by their firms.

The most frequent cause of absenteeism is illness, and a great deal of illness can be avoided by proper medical attention and the correction of wrong or faulty habits of life.

But all this assumes the existence, within the organisation, of an up-to-date medical department, adequately staffed and equipped to guide the employees in the preservation of their health. It is futile to carry out health examinations if they are not followed by prompt remedial measures. Records should be maintained to indicate the practical results achieved by actions *following* the health examination. We have spoken about an 'up-to-date medical department', this would include several sections for medical, surgical, eye, dental, and rehabilitation treatment. A statistical section would also be essential.

Selective Examination of Labour Applicants: Authorities advocate that a medical examination should be held *before* the applicant is engaged. Moreover, such an examination should be held in private. When women are being examined, a nurse or other female attendant should be present. The preliminary part of the examination—the taking of weight, height, chest measurements, and so on—may be carried out by a trained layman so as to save the time of the medical officers. This should be followed by a thorough medical examination of each candidate. Even those men who are rejected as being physically unsuitable should be told of their disabilities and given advice as to how best to overcome them.

An authority on the subject of physical examinations for industrial purposes considers the most important point in such examinations to be the chest, for if the chest is physically well developed, the rest of the body is generally also fit. The incidence of arthritis or diseases of the joints is the second consideration.

Sub-standard Workmen; These may be broadly divided into three categories: (*a*) those who are sub-standard mentally but standard physically, (*b*) those who are sub-standard physically but standard mentally, and (*c*) those who are sub-standard both physically and mentally. Workmen in category (*a*) can be safely placed in occupations involving heavy manual work which does not particularly require the exercise of the mental faculties. The problem of placing on the clerical staff persons who are mentally alert but physically deficient is one which should be given very careful consideration. Before such persons can be accommodated in business or industry, they must be assisted in bringing themselves up to normal standards of physical well-being. The case of the man who is deficient both mentally and physically is indeed a hard one, and the industrial medical department is not the appropriate place for its solution.

Examination Rooms: The size of examination rooms must obviously depend upon the number of applicants and employees to be examined. Where the labour turnover is high and many applicants have to be examined, a larger area will be required. In general, a dressing room, an examination room, a waiting room, and a small office should be provided.

The Cost of a Physical Examination:- This will depend on a number of factors, including the conditions under which the examinations are conducted, the qualifications of the medical officers, and so on. Usually, however, the cost per candidate is not high. In the U.S.A., these examinations do not cost more than a dollar or two. In India the charge should not be made to exceed a rupee per head.

Time for Examination:—This will again vary according to the nature of the examination. It should take anything from 10 to 20 minutes or more, depending upon whether the examination is of a routine nature or of a detailed type.

Record Forms:—These should be: (1) simple in arrangement but large enough to cover all the necessary particulars and to contain all questions and answers; (2) made of durable material; cards are preferable to loose sheets as they are stronger and more convenient to handle; and (3) free from superfluous questions, or questions which are not likely to be honestly answered.

Results of physical examinations should of course be kept strictly confidential. The following broad classification may be adopted as to the suitability of the applicant or the employee: Class I—Applicant physically fit for any job in the organisation; Class II—Applicant physically fit for any job but has certain slight defects; Class III—Applicants fit only for certain kinds of work when approved by the physician; and Class IV—Applicant unfit for work in the organisation either permanently or until he has had adequate medical and/or surgical treatment.

Periodic Health Examinations:—These examinations are essential because industrial and business organisations are compelled to employ persons inspite of minor physical defects and weaknesses; besides, even those who have a clean bill of health at the commencement of their service may subsequently come to have defects or diseases which need to be attacked at the outset. And this can only happen if all employees are given a health examination at regular intervals. Remedial measures will then be possible, and these will benefit not only the individuals who fall a prey to diseases but also their colleagues and indeed their organisation as a whole. If the entire staff cannot be examined periodically, it is essential that the opportunity of a thorough examination should be given at least to those engaged in work which is known to have deleterious effects on workmen's health.

Before instituting plans for such examinations, it would be wise to bear in mind the points which follow.

1. Examinations should, as a rule, be carried out with the willing co-operation of the workmen themselves. Without the goodwill of the employees, the best scheme has but a slender chance of success. A preliminary publicity campaign may be necessary to impress upon the workers the importance of such examinations in their own interests.

2. It is often better to inaugurate a plan for health examination among the new entrants, and then to invite the older employees to have themselves examined on a voluntary basis. It is often necessary to placate older employees in this manner in order to secure their co-operation.

3. The personal approach is usually the best. The object of the scheme should be tactfully explained to each worker, and the findings of the examination should also be sympathetically conveyed to him so as not to alarm him about his physical well-being.

4. As suggested already, the results of the examination should be kept confidential; and the workman also must be asked not to discuss his physical condition with his colleagues.

5. To inspire confidence in the workmen about the sincerity of the management in instituting medical examinations, it will help considerably if the executives are made to appear for an examination *before* their workmen are required to do so. If the service is not good enough to command the respect of the executives, it is not good enough to command the respect and confidence of the rank-and-file either. Also, from the point of view of the organisation itself, it is essential that those who are in command of the destinies of the business should themselves be in the best of health at all times.

6. The medical officers in charge of these examinations should make it a point to familiarize themselves with the various types of jobs in the establishment concerned. This will aid greatly, not only in deciding about an employee's fitness for a particular type of job, but also in the placement of selected applicants.

7. The health examination should be conducted conscientiously. It should also be seen that the workmen are assisted in correcting such defects or weaknesses as are revealed in the examination

To sum up. It is in the best interests of both employers and employees to institute medical and health examinations. The former stand to benefit through greater efficiency on the part of their workmen, and the latter through the preservation of good health.

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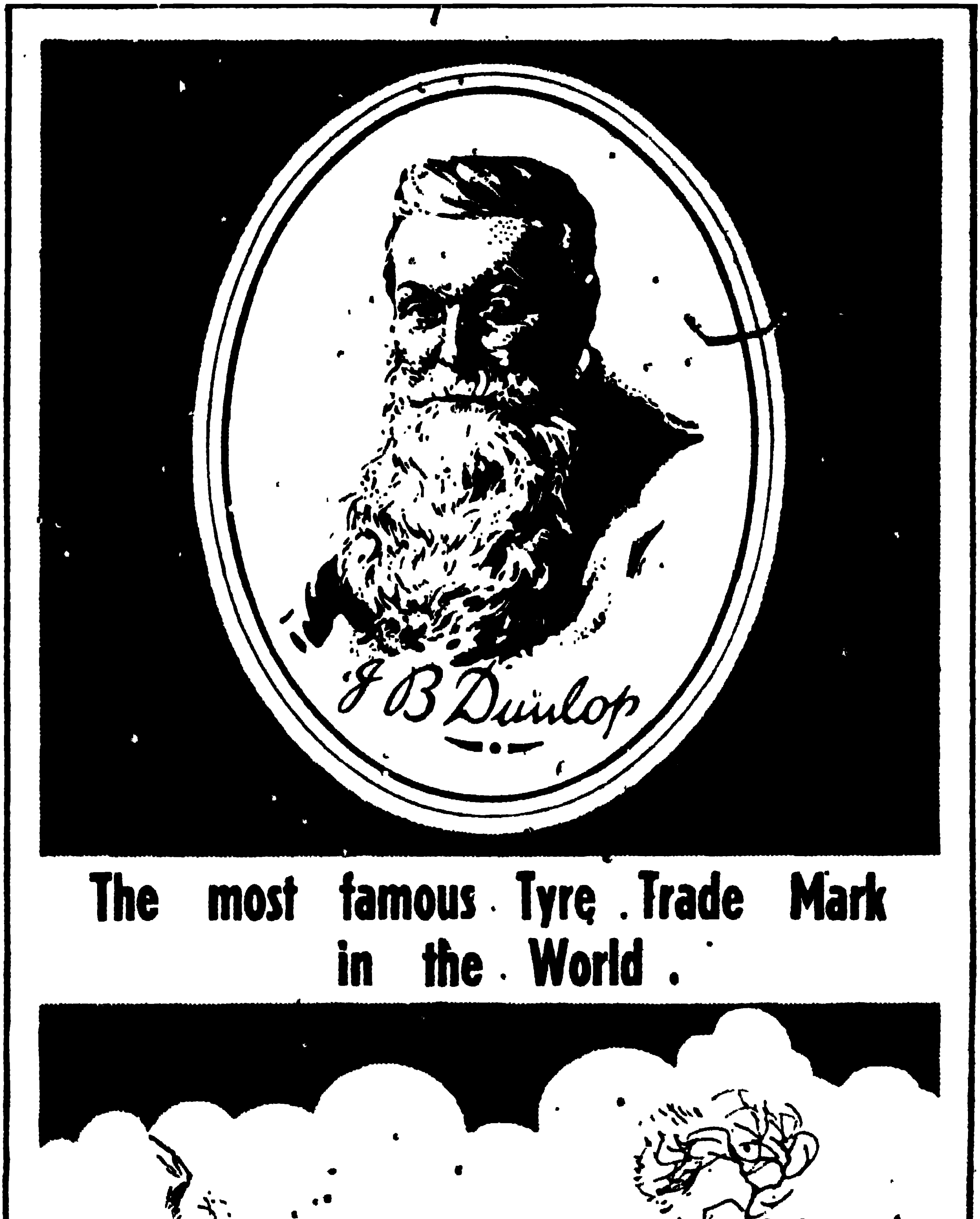

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SELECTING A DRIVER

WHEN a motor-car owner wants a driver, he makes the fact known, and selects one from the applicants who offer themselves. His choice is usually influenced by the applicants' personality, experience, and past record. These factors, important as they are, are insufficient in making an efficient choice; and if the final selection is faulty, as indeed it often is, disaster is frequently the literal result.

The selected driver is tested, of course; but this test is also frequently inadequate. If the owner is wise, the driver is placed on probation for a month or longer, during which period he and the *memsahib* judge him as to how he drives, how he meets traffic situations, and how he maintains the car.

From the accumulated experience of men long engaged in the selection and training of drivers, the following notes have been prepared for the use of private owners wanting to select drivers.

An efficient driver should satisfy the requirements listed below :—

1. Physical fitness for the job of driving.
2. Medical fitness (Apparently good drivers are frequently medically unfit).
3. Perfect knowledge of operating the controls of an automobile.
4. Sufficient knowledge for purposes of maintaining the vehicle in good condition.
5. Immunity to distractions both within and outside the vehicle.
6. Appreciation of his own limitations as well as those of others.
7. Judgment of the condition of the vehicle in his hands.
8. Familiarity with the rules of the road (See " The Motorists' Manual " or " The Highway Code.")
9. A highly developed sense of courtesy and consideration towards other users of the road.
10. A clean driving record.
11. Ability to read and understand road signs.
12. A quick judgment to meet emergencies.
13. A safety sense which always allows a " margin for safety."
14. Regularity of attendance; attentiveness and obedience towards his superiors.
15. Self-confidence and calmness, particularly in emergencies.

Apart from these important factors, the Road Test is essential in ensuring proper selection. The Police route, namely, a run through the narrow and congested streets of the bazar, and a run up and down one of the Malabar Hill slopes, is a good one. With the variety of traffic conditions which it presents, it should enable a capable examiner to judge the capabilities of a candidate-driver. But in this test, we should include the following performances : -

1. Parking the car on the correct side of the road and within the distance allowed by the Police. (Two feet in the case of Bombay).
2. Stopping and starting the car on a hill.
3. Turning around in reverse, on a road 25 to 30 feet wide.
4. Answering the significance of a traffic signal after it has been passed.
5. Telling the candidate-driver to drive to a particular destination, and watching how well he chooses his route.
6. Having him stop the car as quickly as he can when a speed of 20 miles per hour has been reached.

In scoring, the candidate-driver should be marked for the following points : starting by handle and by self-starter; stopping; cornering; turning; backing; braking; speed attention; courtesy towards other users of the road; parking; and attention to signals and road signs.

In addition, he should be watched and rated on the following points : use of the horn; overtaking on the left; the safety code; passing a stationary tram-car which is either loading or unloading; posture; grip of the steering wheel; behaviour at cross-roads; whether he is in the habit of " riding the clutch "; changing of gears; position that he takes on the road (side or centre); and the position he takes in relation to cars in front and at the rear.

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POST-WAR AIMS AND OPPORTUNITIES

THE RT. HON. SIR STAFFORD CRIPPS, K.C., M.P.

An address delivered at the opening of a Short Residential Course for Personnel Officers held in April 1945, at University College, Nottingham, at the request of the Ministry of Aircraft Production.

THERE is no doubt that we are embarking upon a period of peculiar difficulty in our industrial life. We are reaching the moment when demobilisation will begin to become a reality and when the change-over from war to peace-time production will get under way.

Those men and women who have for long periods of time—up to six years some of them, been away from their homes and their peace-time occupations doing the splendid job of winning the war for us will be coming back to their old avocations. Others will be entering industry for the first time with no training and an experience which makes it hard for them to settle down.

That is one aspect of our problem—the fitting in of hundreds of thousands of men and women who have grown accustomed to quite a different type of life from that of industrial employment. Then there are the problems of changing over, production to peace-time manufacture and the urgent need to make that change both quick and smooth. Finally, and perhaps most important of all, we must achieve a far higher degree of efficiency in our industries if we are to survive as a great influential Commonwealth of Nations in world affairs—far higher than most of them have ever developed before or even during the war.

We are thus embarking upon a time which, like all times of difficulty, presents us with exceptional opportunities, either for failure or for success.

It may be recalled that at the end of the last war there was a wave of emotional belief throughout the country that somehow or other we were going to do great things with the peace. All the old pre-war evils and wrongs were to be swept away and we were to draw a new picture of our civilisation on a slate sponged clean by our war-time experiences.

Well, as you know, it did not turn out like that. There was too much emotion and not enough intelligence. In many fields our achievements fell lamentably short of our hopes. In housing where were the houses fit for heroes? in education and in many other places, including that of our industrial organisation and efficiency, we failed to establish those new standards after which we thought we were striving.

Now we have another chance. There are moving the same sentiments as we had 26 years ago, but now we also have the advantage of the lesson of our failure after the last war. We have all learnt that hard work and intelligent action is needed and not merely wishful thinking. As Blood and Sweat and Tears have been needed to win the war, so Sweat and Tears—but not Blood we hope—will be just as necessary to win the peace.

Science and Human relationships.

Of all the difficult problems which industry must face in the financial, technical and production fields, none is more important than the question of human relationships. In the past we have tended to pay more attention in industry to the machine than we have to the man or woman. Indeed, very often we

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have only regarded the man as a sort of all-purpose machine with no soul and no human characteristics. As a result, we have got tied up in every sort of difficulty and have very gravely diminished the overall efficiency of our production.

It is not perhaps possible as yet to apply to human beings the same exact scientific methods that can be applied to the operations of a machine. We cannot in the same precise way as with metals and machines assess the strains and stresses that affect the human body and mind, but we do know that they are there and we can study their effect and thus learn how to avoid their reaching breaking point. It is possible by a scientific study of properly collected statistics to learn a great deal about these difficult problems of human relationships. That has been proved conclusively by some of the excellent work done in the armed forces during the war, and I hope that those methods may, some of them, be carried over to peace-time use. I am convinced from my own experience of the value of a more analytical and scientific approach to the problems of personnel management.

Effective Personnel Management.—Let me say here a word or two about a matter which I am sure many personnel officers have in mind. How far is this personnel management only a temporary need arising out of war conditions, or how far will it remain a permanent feature in our industrial organisation? That is really a question to which you yourselves will inevitably provide the answer. Personnel management is capable of showing such good returns in the efficiency of production that no considerable sized firm could afford to be without it. From a national point of view I know its value and its necessity.

But in the post-war world it will inevitably be judged by its results. And let us remember that in order to produce the results which will justify personnel management, as much specialised study and effort is required of personnel officers as of any other set of professional men and women. If the personnel officers of today show their value there is little doubt in my mind that there must be not only a continuance but an extension of personnel management in industry. The one thing that could arrest its growth is bad personnel management due to a failure to study and understand the science that lies within it. I do not think the " I know a good man when I see him " sort of attitude is likely to perpetuate personnel management. Something more scientific than that is required.

I would not, however, suggest that a scientific approach alone is enough. People chosen for this very responsible job must also have an aptitude for it; they must have a philosophy of life and an understanding imagination that enables them to appreciate the very sensitive problems of personal human difficulties.

Experience should be pooled—Now a part of the scientific and analytical approach to the problems of which I spoke is the exchange of information and of experimental results. A single factory, however large, provides only a limited area for experiments by trial and error. If we proceed upon the well-known principle that in any series of experiments there must never be more than one variable factor then, of course, experimentation is bound to take a long time in a single unit. There are in fact today all sorts and kinds of ways of improving personnel conditions being tried out in our

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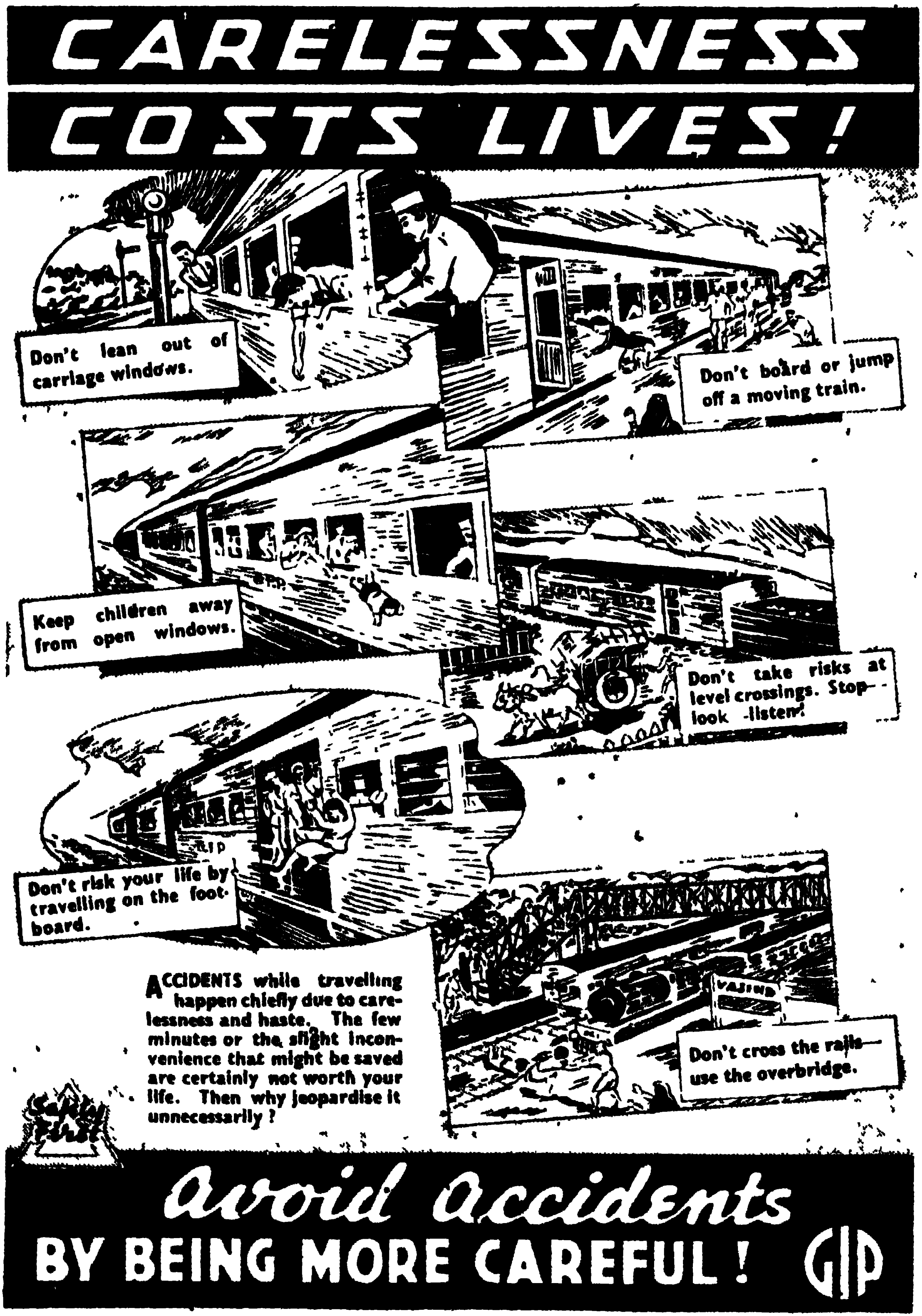

Don't lean out of carriage windows.

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Keep children away from open windows.

Don't take risks at level crossings. Stop—look—listen!

Don't risk your life by travelling on the foot-board.

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ACCIDENTS while travelling happen chiefly due to carelessness and haste. The few minutes or the slight inconvenience that might be saved are certainly not worth your life. Then why jeopardise it unnecessarily?

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factories, and one of the advantages of such a course as this is that it brings together a great diversity of experience which can be exchanged between the members who attend.

I wish myself we had a much freer exchange of information on these matters, but perhaps that will have to await the setting up of some strong and influential professional association for managers. I have been greatly surprised in visiting factories to find how comparatively little the management in one factory will know of what is happening in others, especially in this matter of personnel management, and I hope that all personnel officers will take every possible step to study what is being done elsewhere and to get all the available statistics and information about it; otherwise we are as a nation stultifying ourselves by our failure to take advantage of the improvements that we have tried out.

Educational Work.—A large and important part of your work should be concerned with education in industry. It is wrong to assume that with the introduction of mass production methods we require less skill in our factories. We may not require quite so many medium-skilled workers, but we need more highly-skilled personnel as designers draughtsmen, jig and tool designers, tool makers and so on. Of these people we have been and are very short in the country and it is absolutely necessary for firms to train young men and women through apprenticeship or other schemes right up to post-graduate standards. In addition to this primary training there is the all-important training of foremen and forewomen and of chargehands which has very largely been neglected in industry in the past.

I should like to see the personnel officer's educational work go even further and include the provision of refresher courses for all categories of staff in their different special subjects.

Matching the worker and the job.—This question of education is closely linked with the problem of selection for jobs. There is nothing that causes more friction and futility in a factory than putting round pegs in square holes. The strain on an individual that results from doing a job that is too much for him or from doing one which is not enough to satisfy his intelligence is very great indeed. It is in this special field of selection that the Army in particular has done such a remarkable job under the inspiration of General Sir Ronald Adam. They have been able very largely to do away with detention barracks by seeing that people are fitted into jobs that suit them. That has been accomplished by a team of psychologists and psychiatrists who have worked out procedures which have now been tested by results over a period of years. It is interesting to note that in the Army the "misfitting" shows itself very largely in the form of "absence without leave" and it is probable that a considerable part of the absenteeism in industry could be traced to the same cause.

It is well worth while looking at some of your problems from the other end, from the point of view of the worker. What would you want yourself if you were to enter a factory as an ordinary worker? That, of course, depends to a considerable extent upon the sort of person you are, in other words, on your character. I cannot say to what each one of you would attach particular importance, but I can tell you what I myself should want, leaving out the matter of wages.

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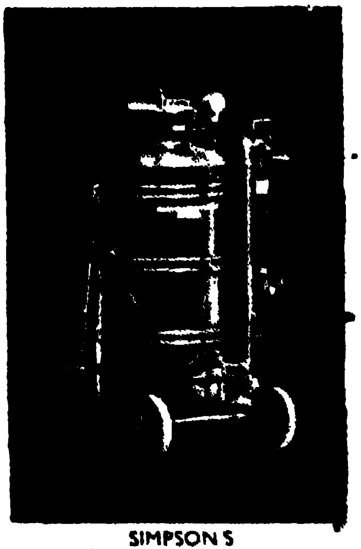

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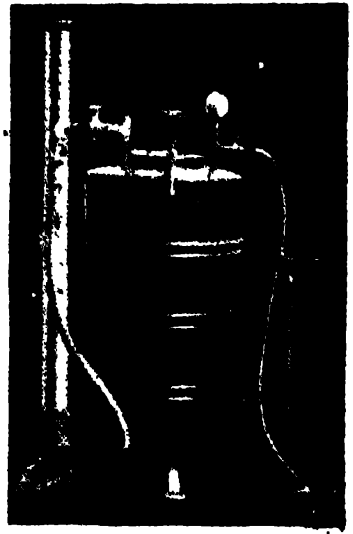

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Needs of the ordinary man and woman.—I should want, first, decent working conditions. That is, all the facilities to enable me to do my best. Good heating, lighting and ventilation, decent conveniences and, if I were on a dirty job, proper clothing and changing rooms with baths so that I could get home in the evening to my family clean and tidy; a proper canteen, too, where I could get good food nicely served and properly cooked; and opportunities which I could not get elsewhere for some social recreation with my pals and family. I should not want to waste my energy in unnecessary physical work of lifting and moving things, and I should want to understand my job and where it fitted in to the whole organisation—in other words, its value.

Then I should like to have the chance to study to improve my position and to be properly instructed if I had to assume any position of authority over others. I should want all the help I could get to make a good job of whatever I did. I should expect, too, to be put into a job that suited my capabilities and temperament or at least not to be kept at one which did not suit them.

Then finally I should certainly want to feel that I was part of a team and that I had some interest in and connection with the work of that team; I should not want to be treated as an unintelligent cog in a machine.

Now if I feel like that (and I am sure many of you would feel the same) so will a great many of those for whom you are responsible; and if they do not, then they are unlikely to fit into the sort of team that alone can produce efficiency and happiness in a factory.

Of course some people will stress some factors more strongly than others, but by and large I believe that the list I have given of my desires will cover most of the needs and wishes of the ordinary man and woman. It is your job to see that all these are catered for and that each individual in the factory feels that someone cares about his or her individual wishes and likes and dislikes. That is why personnel management is in my view the most difficult branch of management and at the same time the most important.

Past Struggles.—There is one other matter to which I want to draw your attention. There is a long historical background to the problems of employment in this country. The workers have struggled throughout the years to improve their conditions and many of these struggles have been long and bitter and have become part and parcel of the working class history of this country. You cannot ignore them; they are a reality and sometimes a very embittering reality. We are gradually moving away from the time when anything was good enough for the worker. We have become much more enlightened, but the memories of the past still linger on. In your work you must know that past history intimately, and you must give heed to its psychological sequel. Unless you do so you will wholly fail to fathom some of the otherwise unaccountable difficulties that you will encounter.

I do not want to oppress you with the difficulties of your job, but I do want to encourage you to approach your problems and to train yourselves to meet them in the most serious spirit. You can do so much in the years that lie ahead of us to help others to happiness and contentment and to bring our industry to that high point of efficiency that will enable us to remain a first-class power in the world.

We want to be a first class power not for what we can get out of such a position but because we believe that with the influence that such a position gives we can make a great contribution to the future happiness and peace of the world. So your job is linked up, not only with our own future prosperity as a nation, but with the whole world situation as well.

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Charles W. Eliot,
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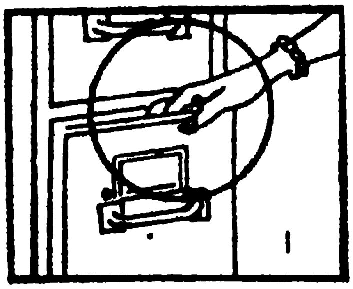
OFFICE EFFICIENCY

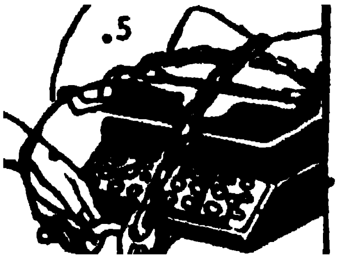
ALL THE MARKS OF A FIRST - CLASS FIGHT FOR WHAT ?

Bruised shins, mashed knuckles, cut and scratched fingers hurt. Torn clothing costs money to replace. So—

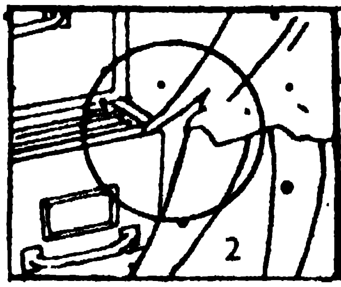


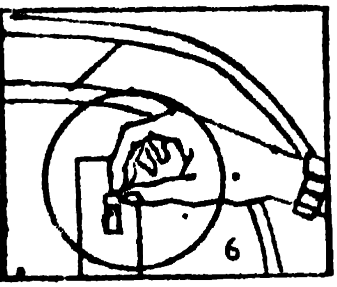
1. Use handles when closing file or desk drawers or disappearing typewriter desks. Use handles or knobs when closing safe and vault doors.

5. Be sure your typewriter is securely fastened in place. You don't want it to "take off" and jump all over you sometime!

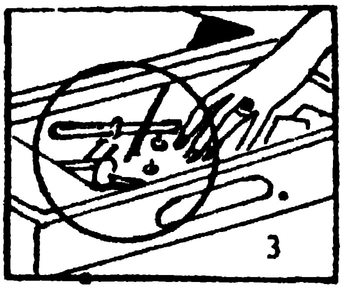


2. Keep file drawers, desk drawers, slides, and locker doors closed when not in use. Open only one file drawer at a time. If a heavy stack tips over on you, you'll be sorry!





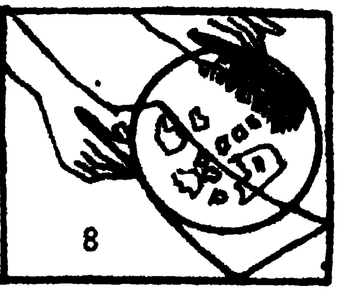
6. **Adjust or clean power driven office machines only when they are stopped. Use all machines only for the purpose intended, and in the way intended.**



3. Keep razor blades, pins, pen points, jack knives, shears, hand awls, thumbtacks, spike files, and all other sharp objects in their proper place. Handle them carefully.

7. Wait till the blades stop revolving before moving or otherwise handling an electric fan. Place fans where no touch em accidently.

4. **If necessary to pin papers together, insert pin so that point is covered by at least one sheet of paper.**



8. **Brush up broken glass, wrap carefully and thoroughly in strong paper, and put in a safe place to be removed later. Do not put it in the wastebasket.**

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TREATMENT OF HICCOUGH

Hiccough is the sudden spasmodic descent of the diaphragm accompanied by spasmodic closure of the glottes, the characteristic noise being caused by the incoming column of air striking against the partially closed glottes. Its most common cause is undue distension of the stomach by being overfilled with food or drink or by an accumulation of wind due to faulty digestion.

The treatment of hiccough will depend upon the cause An emetic to empty the stomach or a stimulant to increase its peristaltic action will often give relief. If we can manage to produce a forcible action of the diaphragm we may often succeed in curing hiccough. Atempts to count a hundred without drawing breath or to hold the breath for a minute are familiar remedies, and by producing a feeling of suffocation and necessitating a violent descent of the diaphragm, these are often successful. Warm application or counter-irritation in the region of the diaphragm or over the cervical spine may occasionally give relief. The administration of hot water in sips or cold water in copious draughts may sometimes be helpful when the cause is dyspepsia. -*St. John Ambulance Gazette.*

Brain teasers

1 A factory and its annexe have a combined age of 40 years. The factory is twice as old as the annexe was when the factory was the present age of the annexe. How old is each ?

2 A theatre sold 300 tickets at 50c. for adults and 25c for children. Total receipts were $125.00. How many of each, adults and children tickets were sold ?

3 To build a cubical box—sides, top and bottom 3" thick, 27. ¼ cu. ft. of wood were used. What were the dimensions and volume contents of the box ?

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EFFICIENCY NEWS, January 1946

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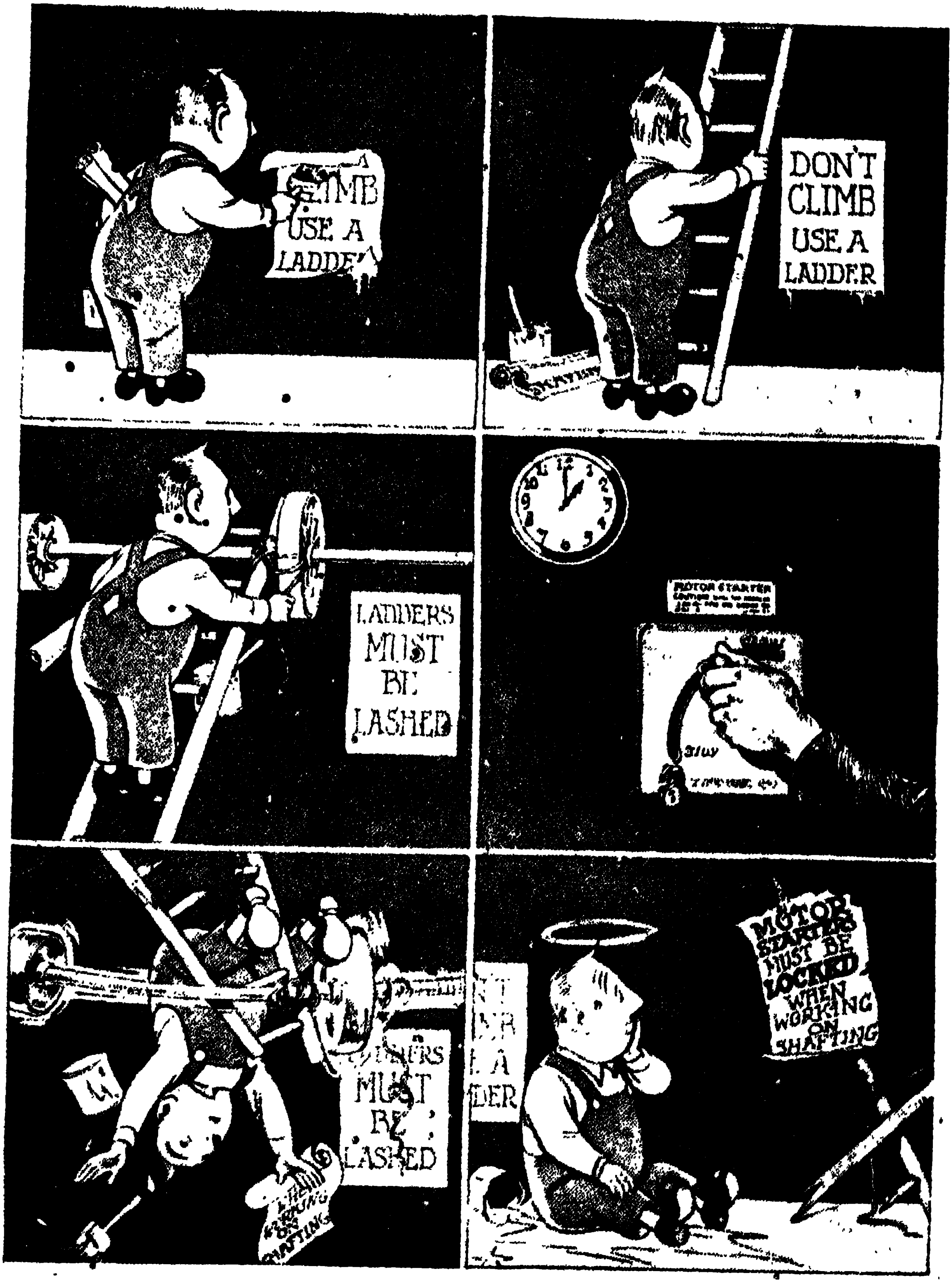

(Courtesy—*R. S. P. A.*)

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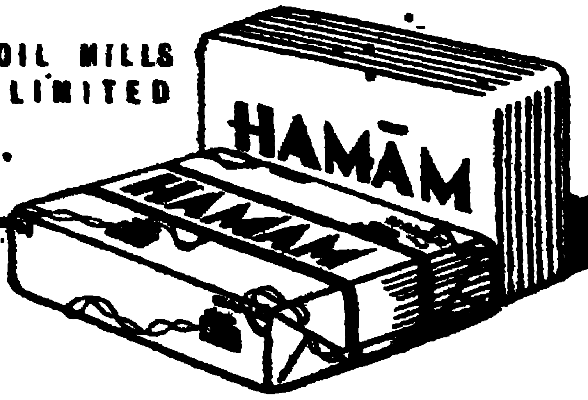

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EFFICIENCY NEWS, January 1946

NOTHING NEW ABOUT PSYCHOLOGY

H. C. TAYLOR,
Employment Manager, Western Electric Company.

Scientific psychology has found no new ways of dealing with human nature it helps by sorting out the methods that work.

If we define psychology as the study of human nature, it is clear that any human being who deals with human nature must in some sense be a psychologist. Most especially, it is a large part of the foreman's job to deal with human nature, and he is thus forced to become a psychologist in this practical every day sense.

Professor Harvey Carr, who until recently was head of the Department of Psychology at the University of Chicago, used to begin his classes in Advanced General Psychology with the definition of psychology as "the study of human nature"; then he would remark in his Hoosier drawl, "But don't let that definition fool you. Psychologists don't really know anything about human nature—most of them aren't even interested."

Scientific psychology has discovered no startling ways to deal with human nature which were unknown to practical handlers of men. Its contribution has been rather in the laborious observation of these successful dealers with human nature and in the careful recording of what works and what doesn't work—the sifting of the truths from the half truths and falsehoods.

Despite the core of truth in our common knowledge of humanity, our everyday beliefs about human nature are actually full of contradictions, as is well illustrated by many of our proverbs. For example, "Out of sight, out of mind" sounds true enough until we remember that "absence makes the heart grow fonder." "Look before you leap" seems to be a worthy precept until we recall that "he who hesitates is lost."

The point is that the expert handlers of men are not always experts in pinning down just what it is that works; and it has been the task of the students of human nature to observe, record, and summarize the formulas of success in dealing with people.

Why do People Work?

One of the most frequently discussed topics in industrial psychology is that of "motivation." There has been much arm-chair speculation and considerable scientific study of the factors that lead people to work and which stimulate them to work effectively. I suppose we are all tempted to dismiss the whole topic of motivation to work by citing the obvious fact that "most people work because they have to." But beyond the level at which people will work because they have to, there are, of course, much higher levels to which they can be stimulated by having additional reasons for good performance. There is one factor that has received much recent emphasis. That is that perhaps the most important thing that a worker wants from his job and his company is a "sense of belonging."

We used to talk a great deal about the physical conditions of work. There were studies of the effects of

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illumination, ventilation, temperature, hours per day, days per week, and rest periods on the efficiency and morale of workers. There is no doubt that these factors are important. Nearly all studies of these matters, wherever conditions could be controlled sufficiently to warrant any conclusions at all, showed that there are "optimum points" with respect to such variables, at which points efficiency tends to be at a maximum. However, possibly the most striking finding of these studies has been the discovery of the power of the human organism to adjust to conditions and to perform with efficiency even under relatively adverse circumstances, provided only that the will to do the job is present.

When properly motivated, people are able to carry on work quite effectively under unfavourable circumstances. Also, it is further to be noted that in this day and age, the variability of the physical conditions of work to be found in most industries is not great, and is well within the range to which human beings can easily adjust.

The Sense of "Belonging"

It is evident that as distinguished from the physical factors just enumerated, psychological and sociological influences are vastly more powerful in determining the extent to which people can function with effectiveness and satisfaction on their jobs. Among these factors, none is more powerful in its effect on people's behaviour than what we have referred to as the "sense of belonging" which pertains not only to man's work situation, but also to his position in the entire community in which he lives.

This sense of belonging is illustsated perhaps more by our sentiments toward our home town than by our attitudes toward any other matter. Those who do not develop a feeling of participation in their communities, a feeling of being "at home" with their fellow residents, tend to become the unconventional people, the nonconformists, the maladjusted ones, the ones who are "out of tune" with the world in which they live.

The sense of belonging is equally important in determining a man's effectiveness at work. If he refers to the company as "we," if that organization is a part of him and he feels he is a part of it, a great deal of the basis for effective performance is present. If, on the other hand, he thinks of the company as "they," his interest is probably not deep enough to motivate him to put forth his best efforts.

This sense of belonging, which the employees of some organizations seem to have, and which is noticeably absent in other establishments, is not brought about merely by the earnest desire to have it. Neither can it be brought about simply by management fiat nor by the mere initiation of high-sounding personnel plans and policies. Nevertheless, the first essential in developing the sense of belonging among employees is undoubtedly a sincere desire on the part of the management to have employees become a real part of the organization and a continued effort to take all steps necessary to bring it about.—*The Reef.*

Co-operative Training

In a recent issue of *Efficiency News* we suggested that firms might join and run a co-operative scheme of technical training to train apprentices. News has just arrived that a number of firms in South of London, with the help of the *Borough Politechnic*, have initiated such a scheme.

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EFFICIENCY NEWS, January 1946

PREVENTION OF INDUSTRIAL ACCIDENTS

By Ernest Bevin, M.P.

I AM glad to have this opportunity of meeting directors and managers from the high executives of industry. The success which has attended the organisation of man-power in this country is the result of the co-operation between all parties concerned the Government, management and trade unions, together with the goodwill of the people and while I wish to talk about a special field in which that co-operation is particularly necessary, I feel that I can do so with a belief in the value of co-operation which is based on solid achievement through that method.

In 1940 I was faced with the realisation that the war effort in our factories was being hampered and was likely to be still more hampered by accidents.

It is impossible to measure the human loss which is represented by every serious accident :- the broken lives, the wasted hopes, the disturbed homes, and the anxiety concerning future employment.

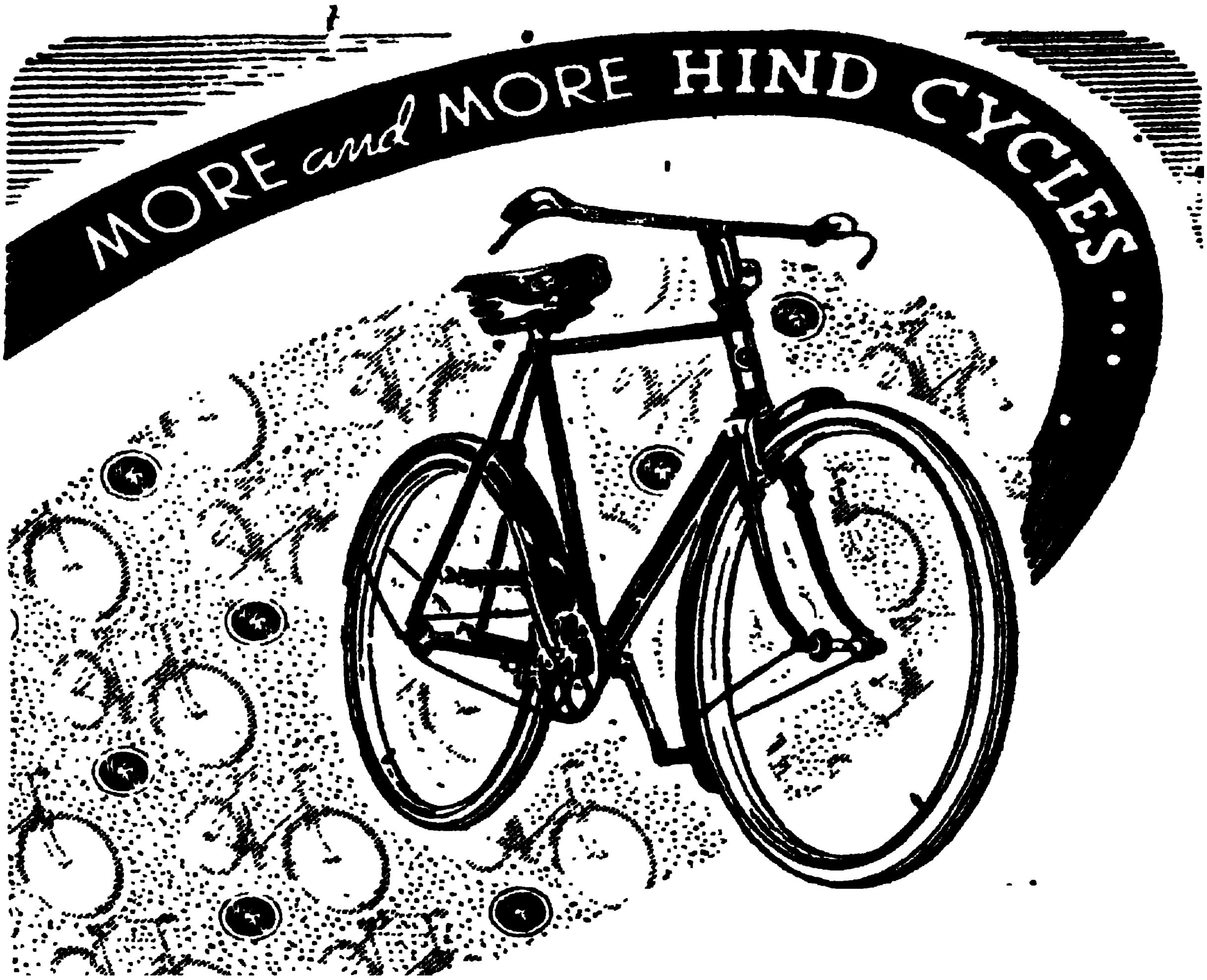
You as directors and managers would, I know, place that human side first, but you are also bound to have regard to the material loss which this involves.

A recent reply to a question in the House of Commons placed the estimated cost of Workmen's Compensation alone at £17½ million per annum.

I expect you will be familiar with the estimate that has been made independently both as regards this country and America, that the visible cost of accidents as shown in compensation payments is roughly only one-fifth of the total loss to the community.

It is not my purpose to develop that argument in detail, but when we take into account the hidden costs of loss of production, loss of time of other employees when an accident disturbs the smooth working of the shop, damage to machinery and plant, loss of material and the like, we can see how this estimate grows now to a total cost of something approaching £70 million per year.

We hope to offer much relief in restoring injured workers to normal life by our new scheme for rehabilitation. Even better, however, than rehabilitation is the prevention of the accident. It is to study accident prevention from this higher viewpoint that you are met here today.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I decided in 1940 to unite in one combined effort the long and accumulated experience of the Factory Department and the special technique in publicity, propaganda and organisation of the Royal Society for the Prevention of Accidents.

This combined effort, this joint campaign, has now been in operation for 4½ years, and I am happy to say it has not been without good results.

The non-fatal accidents in factories from a war time peak of over 313,000 in 1942, have fallen to nearly 280,000 last year, and the fatal accidents from a peak of 1,646 in 1941 have fallen to 1,000 in 1944. This fall has been due to many causes other than the work of this campaign, but the latter has had its effect in making firms realise the importance of accident prevention in particular, and the advantage of having a trained safety officer and safety committees in their works.

We have many examples, even in dangerous industries like steel, where the frequency rate has been brought down very considerably by a careful plan of a safety officer combined with works safety committees.

It is not pleasant reading, however, that during the five years 1939 to 1943, in factories alone, not including other branches of industries such as mining, quarrying, transport and agriculture, there were in this country 6,705 fatalities, more than 1¼ million accidents causing absence from work for more than three days, and very many more in which there was some loss of time even if only for dressing or treatment; and that at a time when man-power was the essence of success for our war effort.

Perhaps the feature in connection with this joint campaign that has produced the most valuable practical results has been the course of training for accident prevention officers.

We have trained over 300 at eight courses during the war years though we have been limited by the extreme difficulty of finding proper accommodation, etc. The best testimonials to our success have been that we have a long waiting list and a number of firms have sent us fresh men to every course, and lately we have been honoured by being asked to stage two courses for the American army.

I feel that such training in all directions is one of the new methods we must emphasise—so much so that I will refer to it again in a moment.

I need not take up your time with technical details, but there are some points to which I wish to direct your special attention.

Training: The future of industry, to a very considerable extent, lies in training in many directions.

On the technical or production side, my Ministry is helping through the various training schemes and I am sure these will have an incidental effect on accident prevention.

When I hear of a large firm that has not had an accident on moving machinery to any of its young persons for six months and then find that all these young persons attend a good training scheme in the local technical college, I cannot refrain from linking the two together as cause and effect. I have been told that already, in the potteries, the young potters' assistants who are attending the course at the technical school are setting about their work in the factories in a manner that produces

(*Continued on page 45.*)

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THE BOGEY MAN

BY STANLEY JEPSON.

MY dictionary defines a Bogey as the Devil, but it is not His Satanic Majesty we are now considering, though he may not be unrelated to the Bogey Man of the Children's Nursery! I saw a cartoon in *Punch* the other day in which a masterful old lady, when about to go out shopping, thus admonished her small daughter: "Now you just be good until I come back, otherwise you'll have to listen to the BBC Children's Programme right through!" Half a century ago worried mothers and nurses threatened little children with the Bogey Man; but long ago, commonsense kicked the Bogey Man out of the nursery, down the stairs—and efficiency experts say he may have taken refuge in some of our offices!

Quite possibly. The idea of frightening folk by an imaginary bogey goes back to the very earliest days of the human race, and still survives strongly. Sometimes it is even the General Manager himself who is held up as a Bogey, a hard-hearted inhuman monster who sits isolated in solitary splendour, ready to snap at any one who comes near—a picture painted like that of a hobgoblin in a fairy story, by a lazy executive who shirks responsibility. In fact, it is this failure to take responsibility which is the real bogey behind the whole sad business, as we shall see presently.

A man asks the head of his department for something—it may be an increment, which he may or may not deserve, or leave, or something else. The head of the department likes to be 'hail-fellow-well-met' with all his staff. He shrinks from making enemies; perhaps he has reasons for this if he himself is lazy; and there may be weak spots in his armour. Does he tell the man: "You have not been very punctual, your work has not been very good" and so on? He does not. He says with a bland smile: "Certainly, old chap, I'll ask the General Manager. Whether that old skin-flint will do it is doubtful." To the Manager he tells the truth about the man's unsatisfactory work; and to the man he then says: "No, the G. M. turned it down I thought he would." Or the man may richly deserve an increase and may be one of those promising lads who likes work for work's sake. But perhaps the executive is anxious to avoid asking for any increases, desiring to curry favour by running his department very economically. So instead of pushing for an increment, which he knows is deserved, he returns to the man and says, "The General Manager will not agree to my recommendation." What is the result? A worker feels that hard work is not duly rewarded, and after a few years of this treatment, he joins the vast ranks of those who do just what is necessary to avoid opprobrium, and sits down to draw his pay.

Obstructs New Ideas.—Now you must all know from personal experience many such examples. This Bogey Man takes many forms. He obstructs new ideas which might develop a company's work. The lazy mind always finds it easiest to

An everyday occurrence
—Yet always a Miracle

THE egg in early philosophy was the symbol of Life. Within the shell is a spark of life around which Nature has gathered together all the foods necessary to give it strength and shape. The egg therefore as food is rich and complete. In India we should eat more eggs to remedy the lack of protein in rice, wherever it is a staple food.

To farmers, eggs should mean a sure income as throughout the year there is a regular supply and a constant demand for them. An average hen gives about 40 to 50 eggs per annum with very little expense on feeding and housing.

But eggs are fragile and extremely difficult to handle. Nowadays breakages, together with stale eggs in the hot weather, amount to 25%. To avoid this enormous waste, eggs must be brought safely and speedily to the consumer. SMOOTH, ALL-WEATHER ROADS are the ideal medium of transport.

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GOOD ROADS ARE AVENUES TO PROSPERITY

say 'No' to anything in general, and to anything new in particular. If he says 'Yes' to a new idea, however good it may be, the head of a department is let in for more work in adopting the new idea, and in adapting it to present conditions. New ideas always give trouble, but many of them are well worth while trying out. So he represents technical difficulties or says the idea is against the company's rules or conventions, even though this may not be so.

Now, do not think it is only the executives who are visited by this Bogey. He is often hovering with subtle skill and diabolical cunning around the workshops, encouraging the workers to cover laziness or lack of enterprise by throwing the blame for stagnation on the management, with the old cry that the company is against any progress or change, only interested in easy money, etc.

All this amounts to one thing—failure to accept responsibility. I am a great believer in the educative effect of enforced responsibility. Many years ago, I noticed that members of my own staff did not always realise they were a sort of chain, whose strength was the strength of its weakest link. One by one, I placed each man, for a few days, in the Editor's chair, made him take decisions, deal with the mail, etc., investigate complaints, while I sat by and watched and saw that nothing went wrong. I think they all learnt a lot from this responsibility.

How to Kill Him.—Happily, it is fairly easy to kill the Bogey Man in the instances of shirked responsibility mentioned above. The remedy obviously lies in closer contact between the chief and his staff, either by monthly or weekly rounds, or by keeping his door open at a stated time each week to give the staff a chance of closer contact with a threat of punishment for frivolous complaints! A firm's head should announce his policies in clear terms to all members of the firm, making it clear to supervisors that they are responsible for the work and welfare of their men, and that they cannot always expect to be popular with everyone if they maintain discipline and supervise efficiently. But popularity is one thing: respect is another, and where there is justice, impartiality, and candour there is generally respect.

Now let us investigate some of the other evil doings of this Bogey Man. Not only does he create misunderstanding between one man and another, but he is capable of getting right inside men's minds. He can, for instance, destroy confidence. Lack of confidence in any worker, wherever he is on the ladder, is a fatal thing. Over-confidence without real ability is a frequent malaise in India, but I think lack of confidence by people who do not know what they can do, because they never try, is just as common, though not so obvious. It destroys initiative and enterprise, and in the end results in thousands of people who sit down, so to speak. Others are sitters because they are born mentally lazy, or may be they are undernourished; but whatever the cause the tendency to sit and not pull one's weight is fatal in a young, industrial country like India which is about to embark on vast schemes for industrialisation and better living. For one thing it results in a costly system of supervision which would not be necessary if everyone worked either as a habit, or because they enjoyed it.

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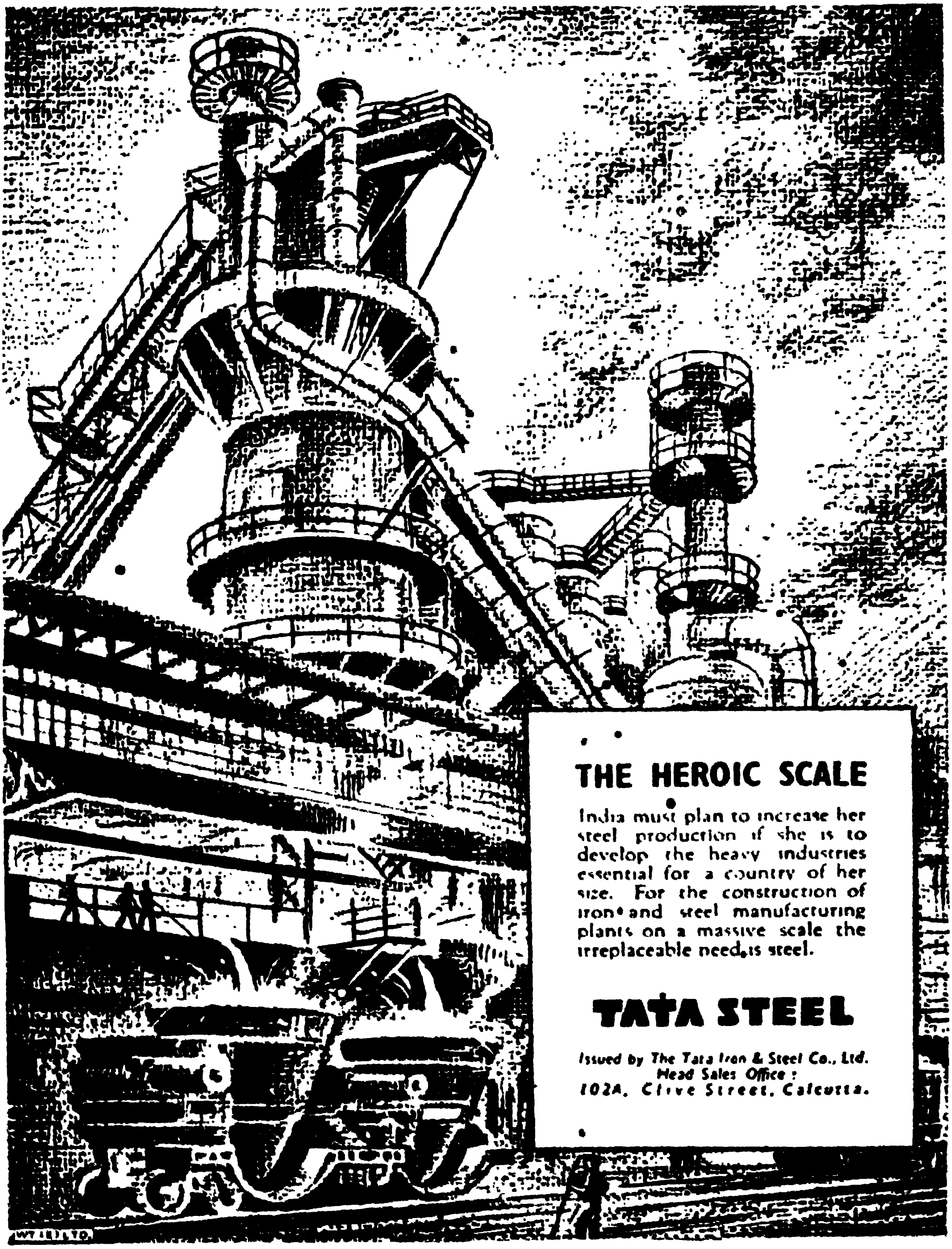
I wonder what the cost of supervision is in India? There is a popular fallacy, that India with its vast manpower resources can provide very cheap labour. Most manufacturers and business men know that by international standards labour is not at all cheap in India. Otherwise, why should a house, which costs a thousand pounds in Britain, cost double that sum to erect in India - almost the same kind of house? Many years ago, when labour costs were much cheaper in India, the International Federation of Weavers and Spinners conducted an International Investigation about mill labour costs, per yard of cloth woven or pound of yard spun. The results were astonishingly illuminating. Japan, of course, had the cheapest costs and we all know why. America had the dearest. But India was high up on the list, close to Britain where the living standard is higher. Below her costs were those of many other countries in the West- Italy, France, etc. Why? Isn't it because of costly supervision? The P. W. D. sets a few men to do a job. There must be a supervisor, and some one over him to check up on him, and so on up the scale, until bowed accountants in offices check up on all figures and forms. How much cheaper if this Bogey Man who is the cause of the sitters, could be killed?

Another way in which the Bogey Man gets into a man's mind is through those evil twin sisters: Jealousy and Intrigue. This is pretty bad in many offices and results in lack of harmony, waste of time, frivolous and engineered complaints, frame-ups and the like. It is like some foul disease that must be stamped out and cleaned up. if India is to make the industrial progress she so richly deserves.

A close relation of these evil sisters is Nepotism. This is another Bogey which must be scotched in India sooner or later. I think it has its roots in that admirable and kindly joint family system which ordains that a man must support his poor relations. Poor fellow! there are so many of them and the better his job, and the more progress he makes, the more poor and unemployed relations arrive. He seems to make progress but has less and less for his own family. He cannot feed them all and in despair naturally tries his damnedest to find jobs for them. I have an idea that if you were to take a geographical analysis of many works and business offices, you would find large groups all related, or all coming from the same village or district. Is this the way appointments should be made, or work handed out? Is this the way India will progress?

We hear much from politicians of the oneness of India. When I see a Pathan watchman recommending for recruitment for a vacancy a South Indian or Mahratta, when I see a Madrassi clerk bringing along a fellow from the C. P. or U. P. and getting him a job, when I see the Mahratta factory worker trying to get a job for the Punjabi, then I shall really believe in the oneness of India. And how I should love to see it! Because this nepotism is likely to prove a very big obstacle in all the big plans which are designed to lift India's masses from the slough of Boverty and Hunger. In the post-war years there will be around Bombay and other cities great factories, which will need real experts, electrical and engineering



THE HEROIC SCALE

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technicians and the like. But if these experts are not so expert, but the relations of some one up above, a director, a manager or an executive, what will happen? The result will inevitably be shown in the factory's products sooner or later. India must slay this particular bogey, and make sure he is quite dead!

Commercial Morality.—And finally we come to the most difficult bogey of all. He affects what I may call commercial morality. If India is to progress industrially and put all her new plans into action, she must kill the bogey of commercial immorality. You see it in many forms—black markets, war time profiteering, illegal gratification, adulterated milk, etc. But I would like to confine myself to one aspect as an example—the better standard of her new consumer goods. She must create some testing ground, run by associations of her own traders or manufacturers, before goods are marketed. I am not trying to sell foreign goods; and while I live in India I'd like to buy Indian goods. But in a shop it strikes me as extraordinary that the salesman will tell an Indian customer: "This is made in America," or Britain or some where, with pride of salesmanship, as a hall mark of quality. No English shopkeeper would say to me, an Englishman in Britain: "Buy this, Sir, it's made in Italy, or Germany, or France." He omits to mention the fact. Why is this?

In my humble opinion, some Indian manufacturers during these war years have lost a wonderful, heaven-sent business opportunity which may never return. For they have had years removed from foreign competition, with money-flooded markets. Many of these new goods are excellent, others are fairly good, but some are of such poor quality and high prices that when shipping becomes plentiful, even the Indian public will return to foreign goods whose quality was fairly standardised and certain. Perhaps you can visualise the sort of goods I mean. You can buy drugs which are not what they should be because of lack of Government control, tools that break or lack that precision which should be the tool-maker's hall-mark, and hundreds of other things like tumblers which chip at the edges, boot polishes which will not polish, soaps of unknown makes which will not lather, and seeds which will not germinate. You yourselves could amplify these examples. Some products are very good and others very bad. Manufacturers must get together and see that the bad are not retailed, and that the trade mark "Made in India" stands for good quality and a reasonable profit margin, so that goods are both cheap and good.

All this is a question of commercial morality in but one of its many aspects. When India can kill this particular bogey, as well as the others, she may easily find vast neighbouring markets, and may well rise to heights of industrial efficiency which can place her at the top of the progressive countries in Asia. *Lecture delivered at the First Efficiency Course.*

Solution to brain teasers

1. The factory is 24 years old, the annexe 16.
2. The theatre sold 200 adult tickets and 100 children tickets.
3. The box is 4'-6" outside and has a volume contents of 64 cu: ft.

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"WHEN YOU GO TO THE MOVIES"

Most of us go to the cinema or theatre frequently. But a few of us behave somewhat thoughtlessly at these places of entertainment, with the result that we mar the enjoyment of fellow-patrons of the screen and stage. With a view to eliminating certain irritating malpractices in this connection, we prepared a "Cinema Code" and sent it to a number of competent persons for their views on the subject. This article is the result.

ARRIVAL.—Take your seat at a show in good time, that is, *before* the programme starts. If this is not done, the view and comfort of fellow-patrons is disturbed by the late-comer. If you happen to be late, occupy the nearest vacant seat so long as you are sure of not disturbing anyone already seated. Better still, wait for a suitable interval in the programme to make your entry. Cinemas showing English films usually begin with "shorts" at the end of which an interval of 5 to 10 minutes is given. Cinemas showing Indian films do not give any interval after the "shorts"; but if late-coming patrons undertook to wait until the main picture started, these cinemas would also provide a brief interval after the "shorts."

It is a habit with many patrons, even if they should arrive early, to assemble in the foyer and converse with friends until the second bell, and then make a rush for the auditorium door. This causes unnecessary congestion, and the door-keepers and ushers find it most difficult to perform their duties efficiently in these circumstances. If cinema-goers made it a habit to get into the auditorium about 10 or even 5 minutes before the lights were put out, they would simplify matters considerably and add greatly to their own comfort.

COLDS, Etc.—If you should be suffering from a cold, influenza, or any other infectious disease, it is up to you to refrain from visiting a cinema or theatre until you are well. Fresh air either in the open or in your home will rid you of your cold. Taking it to a cinema will only result in aggravating it and, still worse, in communicating it to your fellow-patrons.

COMPLAINTS.—If you should have any complaints to make about places of amusement, make them directly to the proper authority. Most cinema managers are only too glad to receive suggestions regarding the comfort and convenience of their patrons.

EMERGENCIES.—Most cinemas and theatres in India are provided with numerous exits, so that even if an emergency should arise, there is no cause whatever for panic. Moreover, the rules relating to cinemas in British India are so strict and the cinema machinery is so safeguarded that the risk of fire during show hours is negligible. Nevertheless, before occupying your seat, make a careful note of the nearest exit in case of an emergency.

It is the duty of the cinema manager to keep all exits well-lighted, clean, free from obstructions, and in good repair. If there is any infringement of these factors, the manager of the place will be grateful to have it brought to his notice.

FIRE. In case of a fire or a false alarm, panic and the ensuing stampede are the principal dangers in a place of amusement. As we have already pointed out, there is little risk of fire in modern cinemas, but should there be a fire or any other emergency, make for the nearest exit with calm. Most people lose their nerve, rush for the main entrance, and block their own way out.

HEADGEAR. As the screen or stage has to be seen over or between the heads of people seated in front, headgear should be removed in cinemas and theatres at least while the show is on. This is common courtesy, as it is most unfair to obstruct the visibility of others. Most gentlemen take off their hats inside a cinema; many ladies do so too. But this good habit should be universally practised as its absence is the cause of much annoyance.

INFANTS. Patrons should not take infants or babes-in-arms to cinemas for obvious reasons. It is extremely unfair to disturb several hundred people by this (fortunately rare) type of transgression.

JOBBERS.—Never purchase tickets from jobbers, not even if the "House Full" board is up. If you cannot afford to be disappointed, book your seat in advance. The individual cinema-goer, rather than the policeman or the cinema manager, is responsible for eliminating the jobber.

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REFRESHMENTS:— If you should feel the need for any refreshments, go to the Refreshment Bar during the interval. Do not bring refreshments into the auditorium. Also, return to your seat as soon as the first bell rings, as otherwise you will again disturb those who are in their seats by the time the main picture begins.

Opening cigarette or chocolate packets during a show, or cracking nuts, frequently disturbs adjoining patrons and much excellent dialogue is often lost through these irritating practices.

SITTING.—You are entitled to sit as comfortably as you can, and so are your fellow-patrons. Do not, therefore, change your position frequently or put your hands up to your head or sari constantly so as to interfere with the view of the people behind. This is specially important if (a) you are a large person and your neighbour behind is of a diminutive stature; and (b) the rows and seats or chairs behind are of the same level as yours.

Avoid digging your knees into the seats in front, as this is most annoying to the occupants of those seats and also damaging to the upholstery. Sitting in certain seats is an ordeal, especially if you are a long-legged person. Select a corner seat in these circumstances, but if you should still be uncomfortable, there is no need to disturb the comfort of people in front of you also.

In the lower classes, upholstery and cushions are often wantonly ripped up with razor blades or pocket knives by a certain class of people. This deplorable practice is punishable by law. Furthermore, if this destructive practice is persisted in, wooden seats will ultimately have to be substituted for the present comfortable ones, thus denying comfort to a large majority on account of the malpractices of a few.

SMOKING.—In most places of amusement, smoking is allowed; but this habit is offensive to some, and should therefore be indulged in moderately. Smoke cigarettes in preference to cigars or pipes of strong-smelling tobacco; avoid blowing your smoke over your neighbours; always use the ash-trays provided for your cigarette ends, both for your personal safety and for the protection of the theatre. Best of all, enjoy your smoking during the interval and outside the auditorium, since excessive smoke in the auditorium reduces the brilliancy of the picture on the screen.

TALKING.—Since you like to enjoy a show undisturbed, allow others the same pleasure. One of the most annoying habits in a cinema or theatre is to talk or comment audibly, thus distracting or interfering with the attention of others. If you have seen the show before, or if you are bored with it, it is up to you to reserve your remarks for a later occasion.

TICKETS, PURCHASING OF.—Always follow the queue system in obtaining your tickets. Before leaving the box-office, make sure you have been given the right ticket for the right show, as this will prevent arguments and complaints later.

PREVENTION OF INDUSTRIAL ACCIDENTS.

(*Continued from page 33.*)

less dust than those brought directly into pottery work

I am hoping that every one that passes through the training courses of this Ministry will become not only more efficient, but safer workers in the factories

But, after all, the greater part of the training must be done in the factory itself and, as far as I can see, the main training will always depend on the work carried out in the factory. When we look again at the deplorable record of accidents during the war years which I have already quoted, it may be that many of these were due to the rapidity with which we introduced unskilled labour on to machines and into the general hazards of factory life.

The lesson for us for the future, surely then, is training. A gradual introduction of our young people to the factory atmosphere, a school where they are taught the correct use of tools and machines with a wider knowledge and a fuller appreciation of the processes, will give us a class of worker with a sound knowledge and wider outlook and such a person will, I am sure, be a safer worker than we have had in the past.

To these we must add the further training of persons whose duty it will be to see that our factories are safe places in which to work, and I think we must extend the training courses for safety officers—or, as they would better be called, accident prevention officers. I am, at present, thinking out a method by which these courses could be extended and made even more effective.

LETTER WRITING

SIMPLICITY AND BREVITY is the keynote to a good letter. No long sentences, no long words. If what you have to say can be clearly and fully expressed in two paragraphs, don't write six. The busy business-man has neither time nor inclination to wade through unnecessarily long letters, moreover they are likely to irritate him.

If a letter is sent out with the idea of soliciting business imagine the effect it would have on your mind if received from another firm. Try to begin well. The opening sentence is the most important in the whole letter. It should be worded with the idea of arousing interest. If the attention of the reader is attracted at the beginning, he will read on; if the opening is unattractive, he will probably scan the remainder and miss the most important part. Make up your mind as to what you want to say and say it without frills. If you are trying to sell, don't talk about your side of it. Tell your customer what the article you are selling is *likely to bring him* in the way of pleasure, profit, kudos or economy; this will get him interested.

A good letter is a substitute for a good salesman. It should make a polite approach and express itself clearly and concisely. It should attract, create a desire and induce the reader to come to a decision. It should be neatly typed, on paper of a good quality. We tell customers that good letter paper gives the impression of coming from a good firm.

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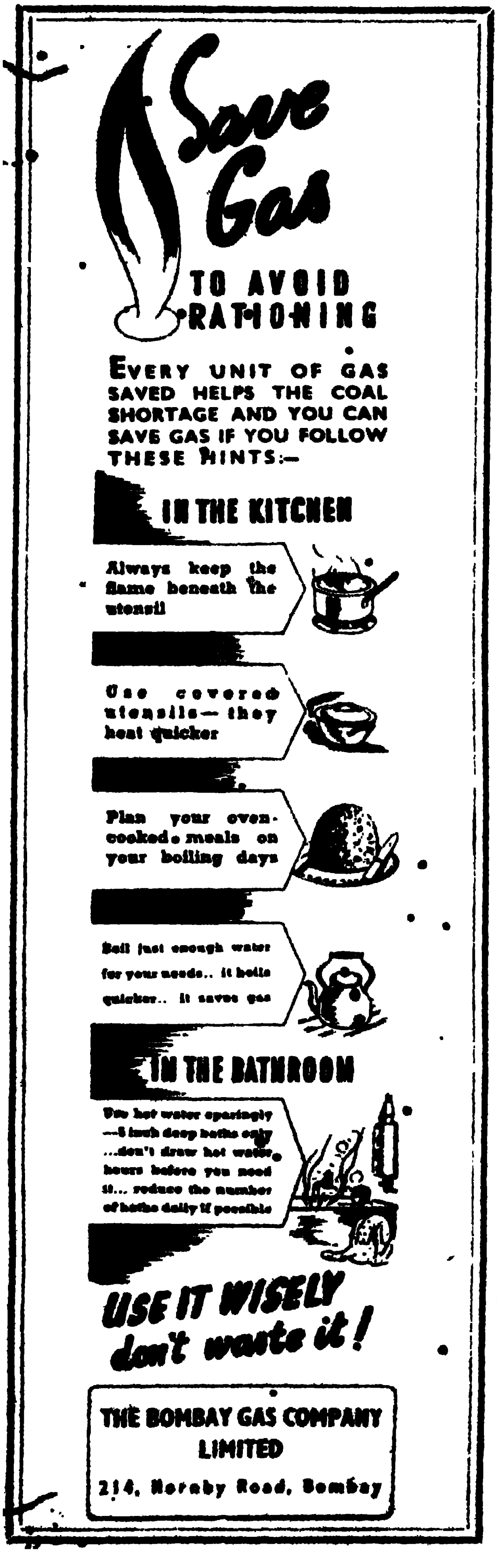
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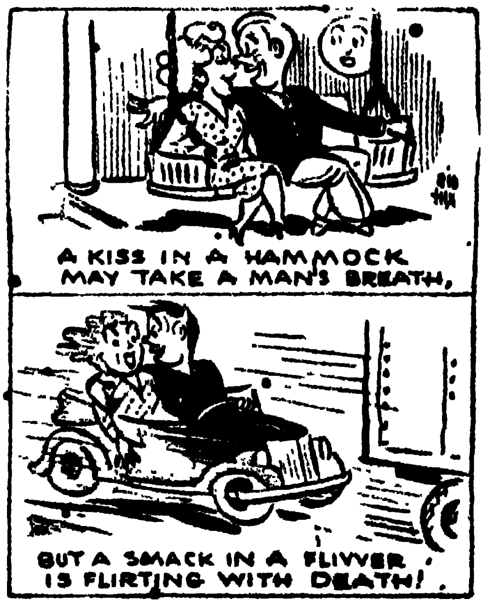
* * *

SAFETY SONNET


A KISS IN A HAMMOCK MAY TAKE A MAN'S BREATH,
BUT A SMACK IN A FLIVVER IS FLIRTING WITH DEATH!

* * *

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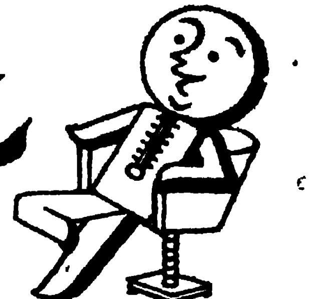
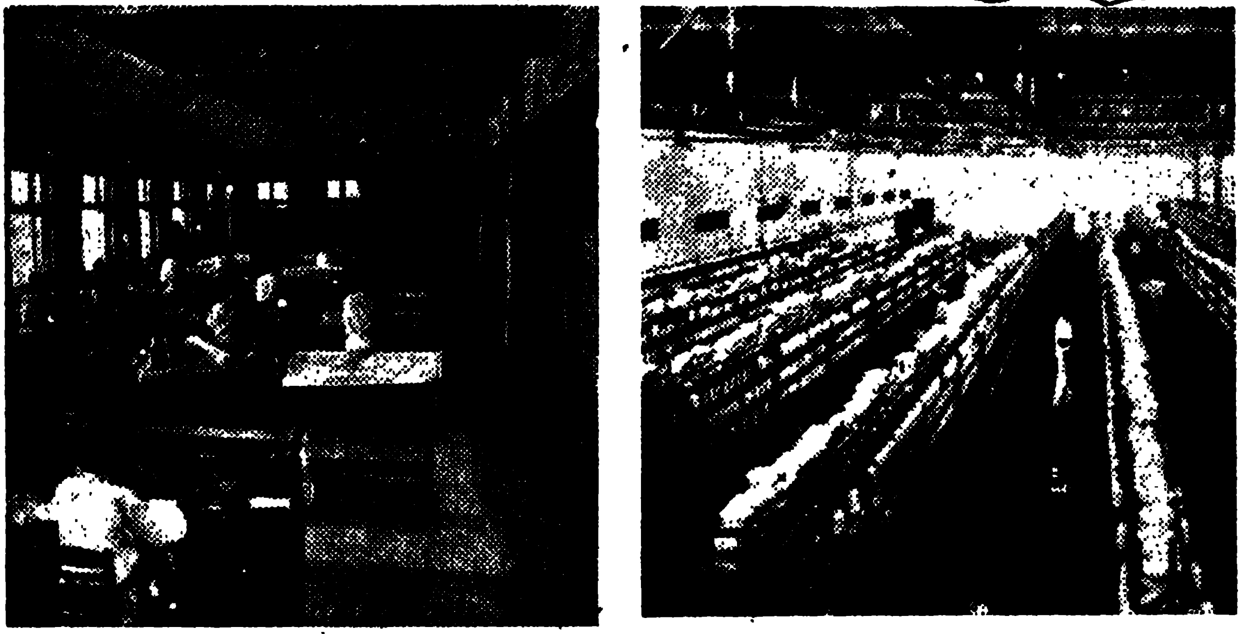
Constant Climate

IN OFFICE AND FACTORY





Left : A Carrier air conditioned office in Bombay, clean, cool comfort. *Right* : Textile Mill in South India with Carrier controlled humidity and temperature. High efficiency in comfortable conditions.

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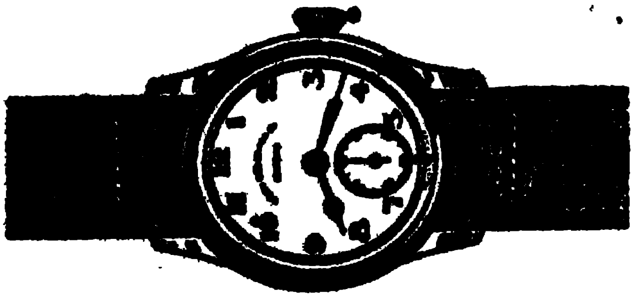
In BUSINESS
— a good plan but are you sure of your time schedule

— the time factor



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In Office, in factory, in mill — in fact throughout professional, commercial and industrial life, time is a dominant factor. Time to clock in, time taken on a job, time for delivery — everything must run smoothly to a plan, and a watch is every man's need, whether he be master or employee. For those who place dependability first, a 'West End' watch is the right choice. Soon we hope to have many models to suit every taste and purse.

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EFFICIENCY NEWS

Vol. XIII. No. 2 — FEBRUARY 1946 — Price As. 8

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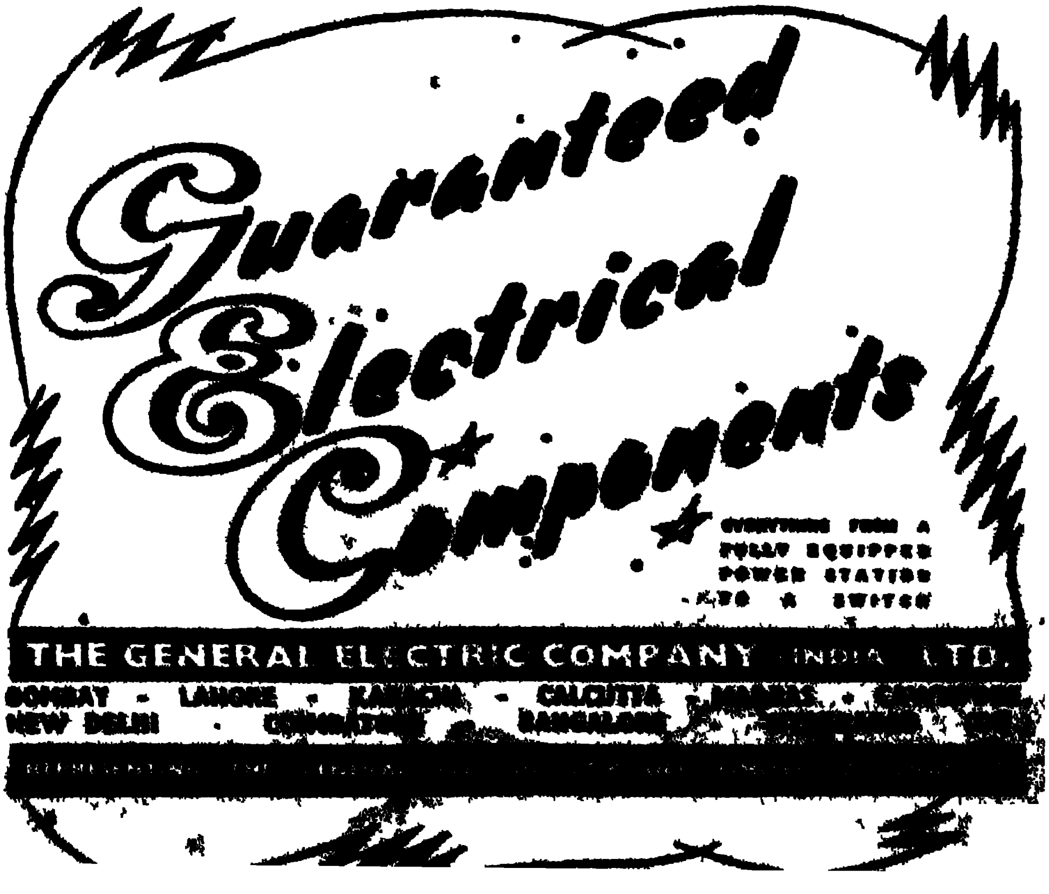

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EFFICIENCY NEWS

Vol. XIII. No. 2. FEBRUARY 1946

IMPORTANCE OF PUBLIC RELATIONS

THE Government of Bombay recently appointed a Committee in order to co-ordinate the activities of the various authorities associated with the proposed development of Bombay and its suburbs. This Committee, in its turn, appointed three panels to advise it on matters relating to town-planning, housing, and communications in Greater Bombay.

Many institutions were keenly disappointed at not being invited to serve on these panels. All these bodies could not, of course, be accommodated ; but a good few of them owed their disappointment to themselves.

It is not enough for an institution to be an expert body ; it is not enough for an institution to do laudable work either. Besides expert knowledge and a record of worthwhile service, institutions associated with public welfare need to have prestige in the eyes of the discerning public. This prestige can be achieved only through sound public relations.

In most countries of the world, it is customary for institutions engaged in professional and social work to devote at least a part of their time and money to public relations work. Public lectures, exhibitions, conferences, publications—all these serve to enhance prestige and to foster public goodwill. In times of need, institutions which invest in these activities are naturally the first to be consulted.

It is probable that false modesty keeps some institutions and public bodies from inaugurating a public relations programme. If this attitude does exist, it can only be characterized as an extremely mistaken one. Architecture, communications, engineering, sanitation, town-planning, and other activities which influence the welfare of the community are not the private concern of any individual or institution. Publicity in these matters is a social responsibility which cannot be ignored or belittled ; and this responsibility is best discharged by keeping the community fully acquainted with every effort for its betterment.

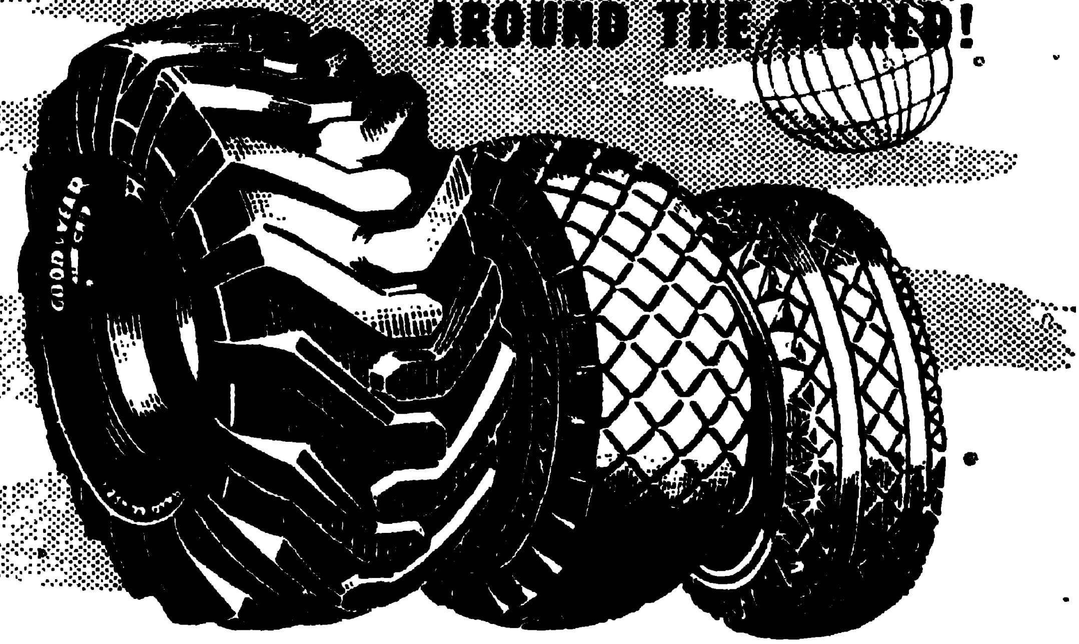
Again, it is likely that some institutions do not invest in a public relations programme because they have scant respect for the public. Fortunately, the days are gone when the man-in-the-street could be cold-shouldered with impunity. The ordinary citizen is daily growing more critical of schemes which are formulated and put into effect for his benefit but without his approval. And his approval should in all fairness be obtained. For he pays for these schemes ; and he is surprisingly capable, if properly approached, of making many worthwhile criticisms and suggestions.

To plan and carry out a public relations programme costs time and money. But besides being a remunerative investment, public relations, as we have already said, are a social responsibility which institutions engaged in public work must undertake as their contribution to the development of the community and country. We cannot afford to allow our experts—whether professional men or social workers—to live and work in a vacuum. Their activities are certain to be a hundred-fold more effective if they are backed by public co-operation and goodwill which can only be secured through adequate public relations policies.

ON THEIR PERFORMANCE RECORDS—

FIRST CHOICE

AROUND THE WORLD!



FOR 30 consecutive years it has been true that "more people the world over ride on Goodyear tyres than on any other make."

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It is this matchless performance that has earned for Goodyear tyres their unparalleled preference—made them the world's first choice for 30 straight years!

GOODYEAR
TYRES

NO 107

MORE PEOPLE MORE TONS THE WORLD OVER RIDE ON GOODYEAR TYRES THAN ON ANY OTHER MAKE

WHAT IS PERSONNEL MANAGEMENT?

MISS SHARP, JOINT SECRETARY, *The Institute of Labour Management.*

Chiefly as the result of the wartime experience of these last five years, personnel management has come to be recognized as an established part of the management function. Nevertheless, there is still some confusion of thought about the nature of what is a relatively new branch of management. In the hope of contributing towards the study of this subject and of reducing to a minimum misunderstandings in industry itself, the Institute has drafted definitions of the practice and aim of personnel management and the work which personnel officers do.

Retrospect: Personnel management is not a phase in management brought to life under the stress of war conditions, but an evolutionary development, and consequently not all the old conceptions have as yet merged into the new. Personnel management has evolved from the interaction of four main groups of ideas and principles. The first of these, belonging essentially to the nineteenth century, was a sense of social responsibility which led a number of "enlightened" employers to take steps to safeguard the welfare of the people they employed. The second arose out of the human needs of labour during the last war, which resulted in the setting up of many welfare departments to meet these needs; at the same time, the wider development of welfare throughout industry was urged by the Welfare Department of the Ministry of Munitions, whose recommendations were reinforced by the published findings on industrial health in wartime and the early studies of the worker, his work and his factory environment. The third was the development of the conception of industry as a joint enterprise in which the principles of representation and collective bargaining became more widely accepted as a permanent feature of the industrial structure.

Present-Day Development: The latest chapter in this evolutionary development relates to the present war period in which there has been a growing recognition that this human aspect of management cannot be dealt with simply by the process of delegation to one or more officers of a company. It must remain the responsibility of all members of the management to understand and apply a company's personnel policy. What is known as personnel management would, therefore, be more accurately described as the personnel function of management.

During this war the underlying principles of the human aspect of management have been enunciated more clearly and authoritatively than ever before. The paternalistic and patronizing conceptions of welfare of earlier years have been replaced by a more fundamental principle. The personnel function of management is wider in scope, more technical in application, than the old welfare concept. At the same time it remains basically true to the teaching of its early pioneers and is primarily concerned with the well-being of the individual and the development of better relationships within industry.

Authoritative Views: There have been numerous attempts to define personnel management, but in recent times a lead was given by the International Labour Office based on the findings of an Advisory

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IN SCHOOLS—

IN INSTITUTIONS—

AND IN THE HOME—

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Committee on Management. Personnel management was then defined

" as that element of management which is responsible for advising generally on all questions affecting industrial relations within an undertaking and in particular performs administrative duties relating to the employment, conditions of work and well-being of the employees of the undertaking."

It must be remembered, when considering the wording of this definition, that not only had those responsible for the drafting to give common expression to the thoughts of the various member countries, but they had also to overcome difficulties of language translations.

One of the difficulties of definition arises from the fact that whereas most management functions are more or less complete in themselves, the personnel function is not self-contained but overlaps and pervades other functions of management because it is primarily concerned with human beings and human relationships. In the definition submitted by the Select Committee on National Expenditure, personnel management is discussed quite separately from the part played by the specialist officers engaged in the function.

> " It has already been stated that the maximum efficiency cannot be attained until the human factor in production is recognized as being of at least as much importance as the engineering and research sides. Once this principle is accepted, the management, in order to ensure the whole-hearted co-operation from the workers, must adopt a clear policy for all personnel and welfare matters. The functions of a personnel officer can briefly be defined as those of a specialist adviser to the management, supervisors and foremen on all questions affecting relations between the workers and management."

Although it is not, strictly speaking, a definition, a similar line of thought was expressed recently by the Chief Inspector of Factories:

> " It has been increasingly appreciated that the welfare of employees implies attention not only to their physical comfort but to their mental and psychological make-up also, and that accordingly good personnel management in an establishment is the primary object to be aimed at . . . . Much progress has been made, but that progress is not to be measured by the number of personnel managers or welfare officers . . . . Good personnel management is not simply a matter of appointing special officers and can often be achieved without making an addition, to managerial staff. At the same time, in the larger factories, a specialized department dealing with personnel is an advantage provided that that department is in the hands of suitable people who are given by their firms the requisite status and authority."

Here it will be noted that personnel management is again discussed separately from the part played by personnel officers. A special point is made of the fact that the personnel officer should have " requisite status and authority," although the meaning of these terms is not defined.

Redefining Principles: The Institute of Labour Management acknowledges in full the value of the definitions given by other bodies, and in particular those referred to above. It also recognizes that now is the time to restate the principles and to incorporate in them the new thought and practice which has always been evolving and to which the last four years have given so much impetus. One distinguishing feature of the definitions which are now published is to be found in the special responsibilities of personnel officers which are shown to include both advisory and executive duties. It is, however, on the wider issue of what is personnel management that the Institute believes that it has made a contribution to management thought. A study of the range of duties with which personnel management is concerned underlines the principle that it is an integral part of management, and, is, therefore, as much a responsibility of the managing director, line executives and foremen as of the personnel manager.

"ELECTRICITY—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

Charles W. Eliot,
(Late President of Harvard University.)

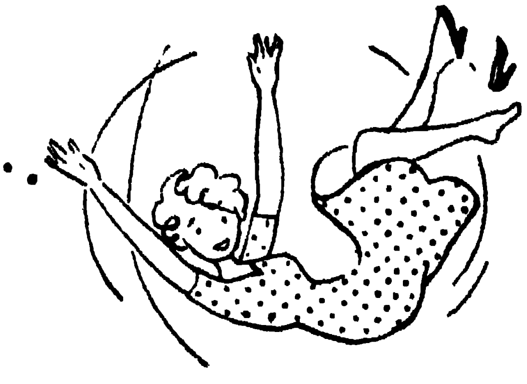
FERRANTI

a name that has been associated with the triumphs of electricity during the past sixty years.

ARE YOU SAFE IN THE OFFICE?

Don't fool with the law of Gravity! It can make a fool of you!

When you have to climb, use a safe ladder. Sooner or later that pile of chairs, boxes, telephone directories or whatever else is handy may collapse and let you down -- but hard!



Leave "Figure 8's" and "Cartwheels" to Professional Acrobats!

Firm Footing is the first safeguard against a bad tumble.

Wear "Sensible" shoes. They prevent fatigue, give sure footing. Open-toed, backless shoes and high heels may provide foot glamour, but they can also invite accidents. See to it that shoes fit comfortably and securely. Have run down heels repaired.

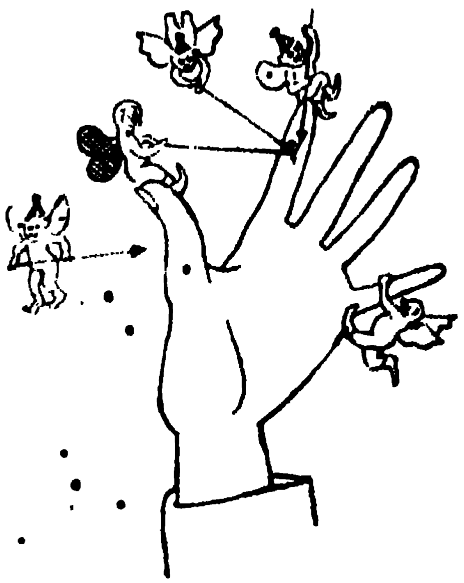
Do you think you're the Office Samson?

Too strenuous lifting has sent many a person to the hospital.

Get help when you have to lift or move a heavy object. Don't try to lift while in an awkward position.

Lift with your leg muscles, and lift straight. Avoid placing strain on your back.

Report "hard to open" file and desk drawers or windows. Don't knock yourself wrestling with them.



Infection—Seeds of Death.

The smallest cut, the tiniest scratch, open the door to deadly germs. Report every injury, no matter how slight, for proper treatment.

CARE OF ENAMELLED-WARE

ENAMELLED hollow-ware is in use for chemical, domestic and hospital services. Such articles are basins, baths, bins, bowls, cans, dishes, jugs, kettles, lavatory utensils, mugs, pails, plates, saucepans, soap dishes and trays, etc.

Enamelled ware is made of cold rolled close annealed iron sheets. The wet enamel is applied, dried and fused. The quality of enamel is determined by the number of coatings, whiteness, good lustre and smoothness. Enamel heats quickly and cools quickly. It cracks and chips if subjected to high mechanical and thermal shocks. (Enamel is heated to high temperature and cooled slowly always during its manufacture in absence of moisture.)

In the trade the name Enamel is usually used for all kinds of enamel articles and of all colours including even the grey, marble and mottled articles.

Abrasives.— In cleaning enamelled ware it is most important to avoid the use of coarse abrasives, as they will scratch and spoil the lustre and smoothness. The use of abrasives and particularly steel wool mops cannot be too strongly condemned as if the vitrified surface of the enamel is destroyed by their use, rapid discolouration and destruction of the remaining enamel will result, as it is only the glassy surface which is really resistant.

Advantages.— Enamelled ware is excellent for all purposes. Only few enamel wares are acid proof. They do not in any way spoil or influence the flavour and taste of the food. They are very easy to keep clean and are unaffected by the atmospheric changes. They are more durable than earthen and porcelain articles.

Boiling.— Enamelled ware can be used direct on the source of heat for boiling liquids, etc., without affecting the appearance of the enamel.

When using enamelled ware for boiling, an asbestos sheet should be placed under it to prevent it from burning.

Burnt Enamelled Ware.— Should your hollow-ware become burnt, fill it with cold water, add a fair sized piece of washing soda, leave it for a time and then boil it. The burnt food should come off without any trouble or injury to the pan.

Buying.— In buying enamelled ware, pay attention to the following :—

(1) Buy branded, guaranteed lead and antimony free enamelled ware of the best quality for culinary and drinking purposes. Though the utensil itself should not be thin, the actual layer of enamel must be thin. The thinner it is, the better it will wear. A thick enamel will chip and peel off. The articles other than for culinary and drinking purposes, such as hospital ware, sanitary ware, etc., are prepared from lead and antimony mixings also, as they give very good whiteness and lustre. The name means that the manufacturer is proud of his products.

(2) Examine the article very carefully for uniformity of enamel, for blisters (over heating and bad sheets with gases occluded in it), for chips, cracks, dents, smoothness and lustre.

Reject enamel that has a spider web effect. These hair-like lines are really series of small cracks. Also reject ware with spotted surfaces or blobs. They indicate irregularities and blemishes beneath.

Chemical Resistance.—The chemical resistance of the enamel can be determined by boiling diluted vinegar in the vessel under test for several minutes. If a sediment is formed and the smoothness and lustre of the glaze are destroyed or partially destroyed, it follows that, the enamel has not the power of resisting the attack of both WEAK AND STRONG ACIDS for any length of time. (Hot concentrated soda also destroys the finish of the enamel, while boiling concentrated Caustic Soda even dissolves the enamel itself leaving the article bare after few hours.)

Cleaning.—Wash enamelled ware in hot soapy water. If greasy add a little soda and boil. Rub with a VERY FINE fluffy clay (free from sand particles

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AT

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and any other grits) and dry by rubbing with a cloth before putting away. Never scratch enamel with metal cutlery or tools ; it will make scratches in it.

Defects.—Defects in manufacturing are caused by imperfect mixing of the raw chemicals, imperfect smelting, fusing, pickling of iron and rough handling. Defects are also due to impurity of chemicals, bad quality of sheets and defective pressing. With ordinary care a well enamelled article will last in daily use for 10 to 12 years, whereas defective enamelling or rough usage may not give a life for more than a few months only.

Disadvantages.—Enamelled wares are more liable to chipping and cracking if roughly handled and if the enamel comes off, it leaves bare the iron sheet in that particular spot, which starts rusting quickly. The rusted spots form yellow spots if not properly washed and dried.

Disinfection.—Disinfect with carbolic or other reliable disinfectant.

Handling.—Enamelled hollow-ware should be handled with the same care as is given to glass : otherwise it will chip and crack.

Lead—Lead and antimony should never be used in the composition of enamels which are used for culinary and drinking purposes, as these chemicals are highly poisonous to health. As such enamels are easily attacked by fruit acids, they dissolve and mix with food stuffs and fruits which are kept and served in such vessels The presence of lead can be detected in the following way :—

Beat up an egg in the vessel and allow it to stand for about 24 hours. When poured out and rinsed with water a dark stain will remain, if the lead is present in the enamel and the yolk of the egg gets coagulated.

Putting into service.—Before putting new enamelled ware into service, it is advisable to place the hollow-ware in a large pan of cold water and boil it in that water and then allow it to cool in the water. This will toughen the enamel.

Repairs.—When the enamel is flaked off, it may be possible to effect a repair in one of the following ways :—

(1) Dislodge any loose enamel, smooth the surface level and place on it a stiff paste of ordinary cement. Smooth the surface and allow the article to dry.

(2) Mix into a paste, putty with equal quantities of coaldust and salt, and place this on to the bare iron surface and smooth it over. Fill the article with water and heat it carefully for 2 or 3 hours and allow it to harden for a week.

(3) It is sometimes possible to solder a hole. The iron should be scratched bright before doing so and cement or putty paste should be applied over this. If the solder does not hold it may be possible to patch a thin sheet of rinsed sheet over the hole and then to lay on the cement.

Seconds.—In enamelling there is a certain percentage of waste. The best manufacturers throw these into the waste heap, whereas others chip off the bad spots and patch them up and sell them as " Seconds ". The fact remains that the article is faulty, no matter how carefully the defects may be hidden.

Soda.—Strong soda has a deteriorating effect on some enamels and causes them to lose lustre and smoothness.

Stains.—Stains may be removed by applying a little salt on a wet cloth.

Sterilising.—When enamel has to be sterilised, it should be placed in the steam sterilizer for half an hour or steeped in carbolic (1 to 20) for two hours. If the bowl or the like has to be sterilized quickly, swab the rim and inside of the basin with spirit, leaving about half drachm in it. Ignite the spirit and when it is burnt up the bowl is ready for use.

Stresses.—If hollow-ware receives rough handling or usage and is subjected to compression, expansion and more or less violence due to falls, knocks, etc., the enamel coating is unable to follow the changes of the metal and, therefore, the connection between the two will become loosened and chipping will take place, and consequently the thinner the coat of the enamel the better it will be distributed over the iron and the greater will be its adherence to the iron.

Any article heavily enamelled is always liable to chip, especially if subjected to the slightest bending action and, therefore, an excess of material added will always be readily liable to separate from the article.

BURNS AND SCALDS

By Dr. T. H. Leggett, Surgeon-in-Chief, St. John Ambulance Brigade, Canada.

BURNS and scalds are ever present dangers in civil life and their hazard is greatly increased in war time due to our war industries ; and more so in actual war areas due to the effect of incendiary and explosive bombs.

The first aider should divide his study of this subject into two parts, *viz* :—

i. The correct first aid treatment of the burn itself.

ii. The procedure in added dangers from smoke and suffocation in case of fire.

The Correct First Aid Treatment

The most important thing to remember is that shock is the first consideration even before local treatment of the burned area. Time spent on treating the burn must not be at the expense of treatment for shock, the details of which we will not discuss here, but of which the first aider should have a full knowledge. About 70 per cent. of the deaths from burns occur within 48 hours and the cause is shock. If the incident is near a hospital and can be removed quickly to have the benefit of hospital facilities it is better to transport the patient without attempting any local treatment ; but giving full attention to treating for shock.

Pain greatly intensifies the shock. The burn leaves the little nerve terminals exposed, and these are exquisitely sensitive to contact with air. The greatest factor then in the relief from pain is avoidance of exposure to the air. Keep the part covered. Delicate handling of the burn and gentle movement of the part are extremely important. Don't try to remove clothing stuck to the burn. Cut around it removing the loose clothing and leaving the parts that are stuck.

The classification of burns is not within the field of first aid. The depth of a burn is difficult to ascertain even by the skilled physician ; and the knowledge does not help in first aid treatment.

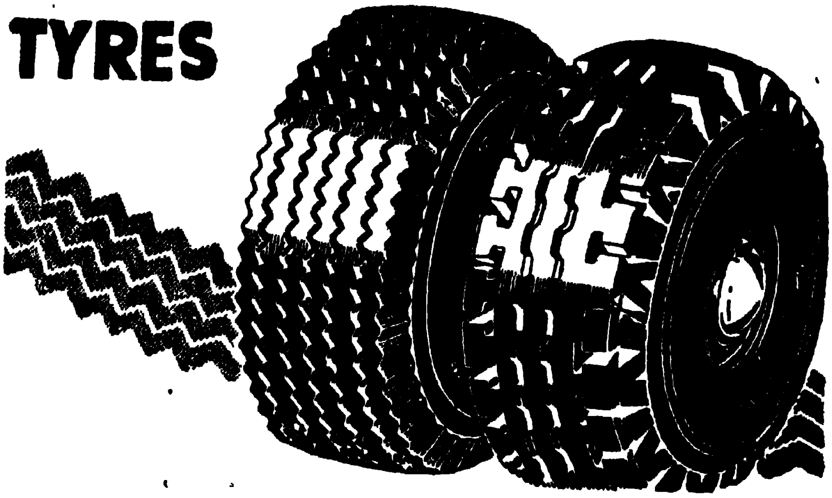
Redness usually spoken of as a first degree burn, or even redness with some blistering where the skin is intact, is made more comfortable by dressing with boric acid ointment or vaseline.

All other degrees of burns, *i.e.*, those where the skin has broken, may be considered in the one class so far as local treatment is concerned. Here we avoid the use of all greasy and tanning preparations. These were widely used in times gone by but experience has taught us that they are difficult to remove and embarrass the surgeon in his choice of final treatment. They have not been removed from the list in most first aid kits. Cover the burned area with absorbent cotton (cotton wool), gauze, or clean cloths. Absorbent cotton is preferred by most surgeons as it best excludes the air, is more comfortable and is easily removed. Moisten the dressings with a solution of bicarbonate of soda (baking soda) or carbonate of soda (washing soda) or normal saline (table salt)—one or two level teaspoons of any of the three to a pint of water.

Best today
-still better tomorrow

Firestone

GUM-DIPPED
TYRES



"GERM"

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LIQUID LUBRICANTS ARE TO BE PREFERRED TO SOLIDS AND SEMI-SOLIDS. BUT THERE ARE MANY INSTANCES WHERE IT IS NOT POSSIBLE TO LUBRICATE WITH OIL. THEN IT BECOMES NECESSARY TO USE A GREASE.

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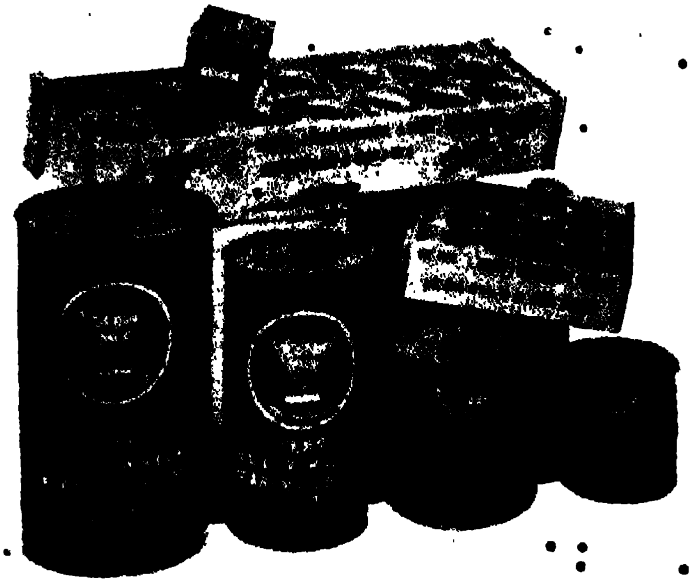

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MADRAS—BOMBAY—LAHORE

Scalds.—Burns caused by hot liquids or steam are called scalds. Treatment for burns and scalds is the same. Burns from hot fat, hot oil, or molten metal are very painful. They usually occur from spattering drops which burn deeply making little pockets in the flesh. Do not try to remove them but flush the parts with large quantities of water until they are cooled and cover with dressing until the doctor comes.

Chemical Burns.—These are caused by strong acids or alkalis. Strip off all clothing which has any acid or alkali on it ; and flush the burned area with large quantities of water to dilute and wash off the chemical. (Carbolic acid burns should be washed with alcohol, if available).

Electrical Burns.—Two things to remember : Break contact with the electric current, then persevere with artificial respiration until the victim breathes naturally or the physician pronounces him dead.

How to break contact with the electric current : Caution !—copper, iron, steel, water and the human body are electric conductors. Rubber, wood, cloth, paper and leather are good non-conductors. Hence if not possible to turn off the electric current, push wire away from victim with dry pole or board ; or stand on dry cloths, papers, wood, etc., and with the hands covered with rubber, several thicknesses of dry cloth, or newspapers, etc., drag the victim from the conductor.

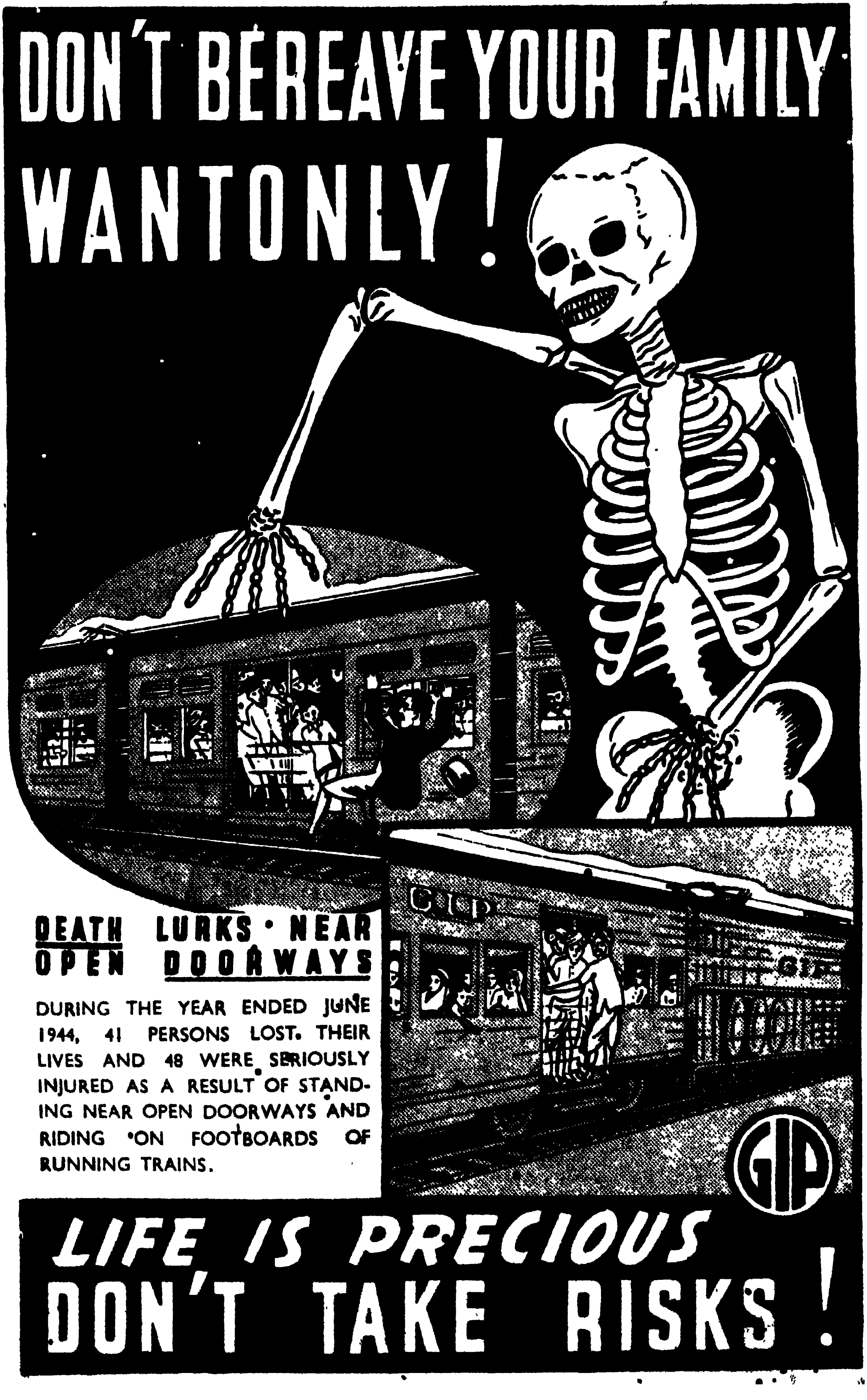
After contact has been thus broken, there is no danger in touching the victim. Likewise, there is no danger in touching a person who has been struck by lightning.

Added Dangers from Smoke and Suffocation in Case of Fire.

In rescue from a burning building don't lose your head. Canvass the whole situation cooly. Remember the halls and the stairways are apt to make for drafts which fan the flames filling the air with heat and smoke. If caught in an upstairs room with no outside fire escape, be extremely cautious in opening the door into the hall. If the door feels hot to the hand, don't open it as the hot door indicates that the air on the other side is many times hotter and one breath of this intensely heated air may cause unconsciousness or even death. Go to the window and attract the attention of persons below who may put up a ladder. If this does not succeed quickly, tie together strips of sheets, clothing, etc., by which a descent may be made from the window.

Heat and smoke rise ; so the air near the floor is cooler and freer from smoke. It follows then in attempting rescue of a person from a burning building, one should crawl along the floor keeping the head down. In this way, one is less apt to lose his way as he can see more clearly and will be much less affected by the smoke and heat.

If a person's clothes are on fire, keep him lying down. Flames rise, and thus the erect position is apt to cause serious burns about the head and neck. A victim with clothes on fire running about frantically, fans the flames and makes the burns much more extensive. Smother the flames with blankets, coats, etc., or roll victim on the ground as you would a burning stick to put out the flames.—*Canadian First Aid.*



DON'T BEREAVE YOUR FAMILY WANTONLY!

DEATH LURKS NEAR OPEN DOORWAYS

DURING THE YEAR ENDED JUNE 1944, 41 PERSONS LOST THEIR LIVES AND 48 WERE SERIOUSLY INJURED AS A RESULT OF STANDING NEAR OPEN DOORWAYS AND RIDING ON FOOTBOARDS OF RUNNING TRAINS.

LIFE IS PRECIOUS

DON'T TAKE RISKS!

MAKING A DATE BY 'PHONE

MANY a salesman stupidly gives his prospect the very words which turn him down. For instance a man calling for a luncheon appointment will say, "Mr. Brown, are you busy for luncheon today?" He doesn't even have to think, but says, "Yes, I am busy today."

How much better it would be for a salesman to say, "Mr. Brown, I will be over at 5 minutes to 12 and I want you to have lunch with me." In this case Mr. Brown has to do some thinking, and rather than bother to think, he probably will go right ahead and say, "All right, come ahead."

Some other silly phone conversations: "Mr. Brown, will you be home this evening at 7-30?" His probable answer: "No, I won't be home this evening." "Mr. Brown, are you going to be busy tomorrow evening?" His probable answer—"I am sorry, Mr. Underwriter, I am going to be busy tomorrow night." "Mr. Brown, may I come out Thursday night to see you?" His probable answer—"No, you can't come out to see me. I will be busy."

The following expressions are better, and will get the dates: "Mr. Brown, I have some information for you, and will stop at your home tonight at 7-30." Or another—"Mr. Brown, I want you and Mrs. Brown to see some charts and figures, and I will stop by for just a few minutes tomorrow evening about 7-20." Or another—"George, I want to see you a minute, and will stop by your house tonight at 7-20."

If you doubt the truth of these remarks, try them yourself or just listen around the office to some of the 'phone conversations, and see who gets the dates.—***Hugh S. Bell's Bulletin.***

OUR CHIEF NEED

"For industrial development, we have available abundant raw material, labour and enterprise. Our chief need is power, of two kinds—hydro-electric power to run the machinery and skilled manpower to direct it. A number of important hydro-electric schemes have been planned and will soon be taken in hand. These will supply the power necessary, but they will of course take time to construct. Many of them will present complex problems of administration, since they concern more than one Province or State. India's other great need is more trained technicians of every kind. We are doing all we can to provide training for them. I hope that a proper proportion of the youth of the country will study the practical rather than the theoretical branches of learning."—*From the Viceroy's Address before the Associated Chambers of Commerce.*

Brain teasers

1 A two digit number, reversed, is 6 more than half the original number. What is the number?

2 A wall 10 ft. high stands 6 ft. from side of a house. What is the shortest length ladder which will just reach the house over the wall?

3 A perfectly flexible rope hangs over a frictionless pulley. A weight is tied to one end and at the other end hangs a monkey of equal weight. The rope weighs 4 ozs. 1 foot. The combined ages of the monkey and its mother equal four years and the weight of the monkey is as many pounds as the mother's age. (The mother is twice as old as the monkey was when mother was half as old as the monkey will be when the monkey is three times as old as its mother was when she was three times as old as the monkey was.) (Phew!) The weight of the rope plus the weight is half as much again as the difference between the weight of the weight and the weight of the weight and the weight of the monkey. HOW LONG IS THE ROPE?

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BRANCHES THROUGHOUT INDIA

PREVENTION OF INDUSTRIAL ACCIDENTS—II

By Ernest Bevin, M.P.

Committees: The war has shown us the advantage of committees on the side of production, and our experience of accident prevention committees, both before and during the war, points to the same end. The representatives of management are constantly pressing inspectors that workers should take a greater share in accident prevention. Surely here is your chance; in giving them a share in the responsibility for accident prevention you will develop their sense of responsibility and if they are given responsibility they will certainly act up to it.

We have evidence of good work being done by safety committees in the task of considering accident reports; and these are, perhaps, of particular value in the heavy industries where the advice of the worker himself can be of so much value. We have the striking example of the English Steel Corporation where such committees sit at each of the works and go very thoroughly into the accidents that occur at these separate works, with excellent results.

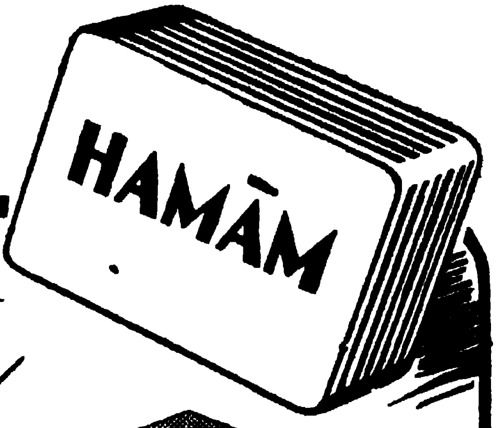
We have not much evidence that the Production Committees take sufficient interest in accident prevention and I would suggest that it would be very useful if joint meetings of the Production Committee and the Safety Committee were held for the consideration of this problem and, in particular, for the consideration of accident reports. I would stress that point. I am very anxious that where there are a number of committees operating in a factory, dealing with different phases of factory work like production, safety, and the rest, there should be a focal point at which they can be brought together to study these interwoven problems.

I would also like to see accident reports placed on the agenda of meetings of Joint Industrial Councils so that they, too, could give fuller consideration to the prevention of accidents. It would change the course of discussions sometimes and be very useful.

As an illustration, I would refer you to the good work of such a committee—the Factories Committee of the Flour Milling Industry—a matter with which I was closely connected in its early days. That committee started in 1926 and, after making an agreement with the Factory Department has kept up its propaganda by the issue of literature and statistics with good results, in spite of the setbacks of the war years. Such a lead might well be followed by other trades.

We can also say that the Joint Industrial Council for the Pottery Industry has considered these matters and lately, on a report furnished by the District Inspector of Factories to that Industrial Council that septic cases in potteries were too numerous, the question of better first-aid has been considered and this Joint Industrial Council is also studying, in the lay-out of new potteries, means of avoidance of steps and other old-fashioned encumbrances that are known to cause accidents due to the handling of goods.

The Factory Department is always ready to help in such schemes and I would take this opportunity to thank those members of both sides of industry who so generously have given, or are giving, their



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help on such committees as the Power Press Committee and those now sitting for cotton, wool, jute and plastics.

Experimental Factory for Cotton Industry.—If I may mention cotton for a moment, we are introducing a special experimental factory through which we hope to educate the whole cotton trade. I find in some of these industries nothing but an ocular demonstration can move a good many people; arguments don't do the trick. We should be very glad in other industries to try out experiments of any kind. If I may give another illustration, several years ago in the galvanising trade we had the horrible job of overcoming fumes. With my friends of the Home Office at that time, I got them to put, I think it was five or six, works at the disposal of the Factory Department in order to try out five or six different experiments. As a result of this trial, fumes were completely removed and the danger eliminated. In this work we want a very fresh mind, which will be willing to try out—even if it fails sometimes—any experiment to prevent ill-health in our factory life.

This collaboration of the ideas of all sides with those of the Factory Department should go far to keep down accidents in particular industries or on a particular type of machine.

General Conditions.—Lastly, I am convinced that the large proportion of accidents that is now caused by moving machinery (now 83 per cent. of the total) can be controlled chiefly from within the factory, and I suggest to you that they will be found to diminish in those factories where conditions of work are good. One of the revolutions in our thinking brought about during the war, and one for which I have striven, is that our workers will not and should not any longer work under bad conditions. But I go further today and say that better conditions will bring about a great diminution in accidents; and, if I may add a word about the material side, they are one of the contributions to the reduction in costs about which employers sometimes argue with great ferocity.

Tidiness is always the sign of a good workman and tidy workmen do not have accidents.

A part of our training in factory and school in simple tidiness of work may go far towards giving us better and safer workers. Inanimate objects do not fall on to people's heads of their own account; they are allowed to fall by bad stacking and by bad house-keeping. Good light, clean and healthy surroundings, good food, clean and sufficient amenities make for this better house-keeping, and, given these conditions, our workers will live up to those good surroundings even in the matter of safer working.

One of the benefits which will follow from the new legislation on industrial injuries will be that it will be to everybody's advantage to do all they can to prevent accidents and to rehabilitate those who are maimed and injured. If the cost of these social services is high it will be largely due to a lack of conscious effort on the part of those responsible for management and operations in factories in not taking the steps open to them to prevent accidents or to rehabilitate quickly those who are injured. I do not wish to see doctors spending their time in the Courts disagreeing over a workman's injuries. I would rather see them combine their efforts to care for him and cure him.

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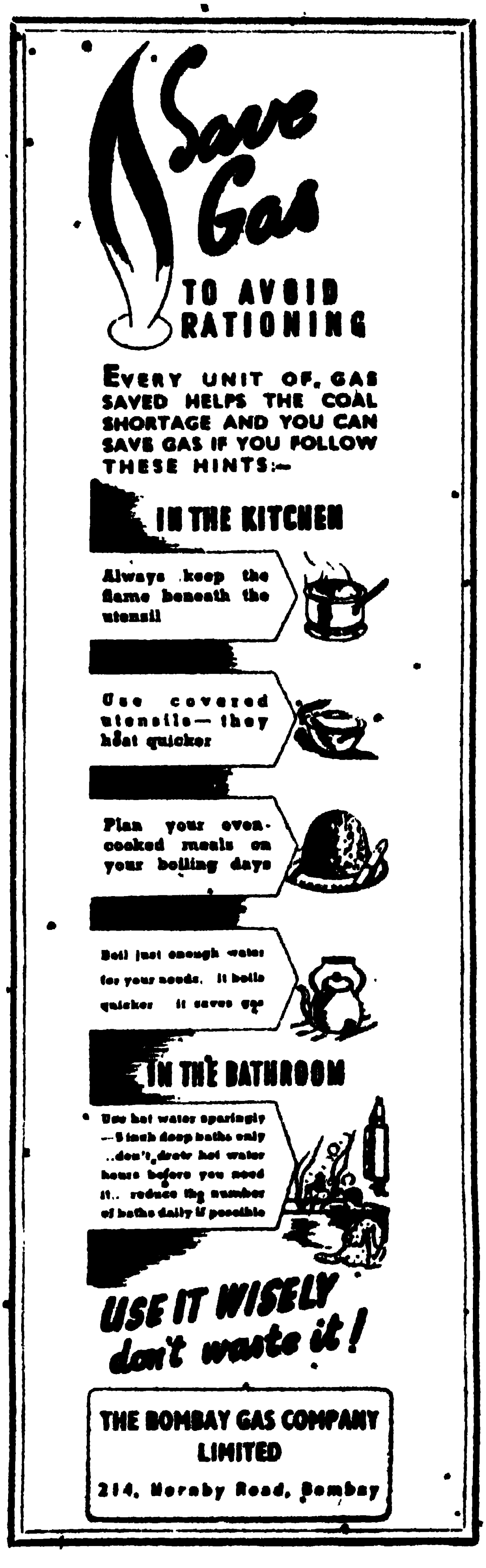
Even on the cost side of this new legislation the only method by which the cost can be brought down is by a real effort on the part of everyone concerned first to prevent accidents and secondly to see that every effort is made to get the injured workman back to his normal work as quickly as possible, or if this is impossible, back to another job suitable to his disability, but yet one in which he can face the world and his fellow-workers as a full productive member of society, giving full value for the job on which he is engaged.

Finally, I will say, without any doubt or hesitation, because we have proved it up to the hilt, that the success of the movement in the prevention of accidents depends on the continuous, unswerving support of the higher managements in all our works. It is so easy to make a show of safety, including a safety officer and safety committee, and all the rest, and yet see it fail, because it is known throughout the works that it is not supported from the top.

This unswerving support must be genuine and continuous, day in and day out, in the face of criticism that accident prevention is an unprofitable luxury.

Our experience is that success only comes where there is this support from the highest authority in charge of the undertaking.

Please remember that, if you can avoid suffering, loss and deterioration of a home by preventing accidents or, if an accident unfortunately happens, by special schemes of rehabilitation, you are not only rendering a great social service to the community, but you are in fact making for efficiency in your undertakings, keeping down costs and taxation as well, all of which reflects itself in your ability to maintain our industries and our exports.—*Machine Shop Magazine.*



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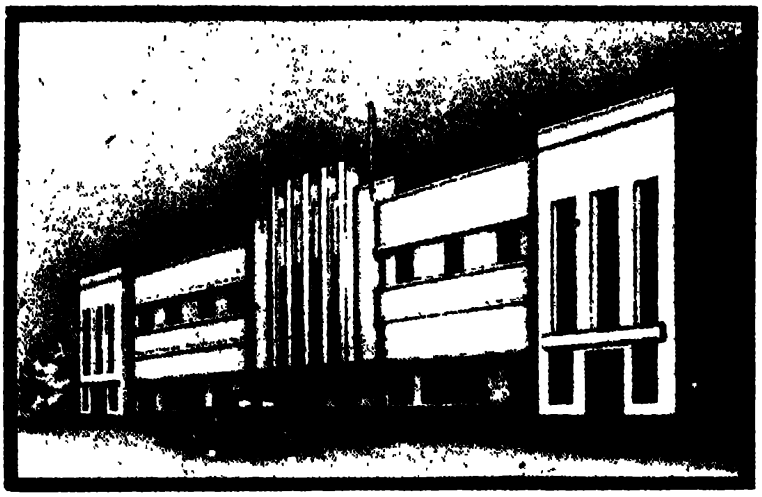

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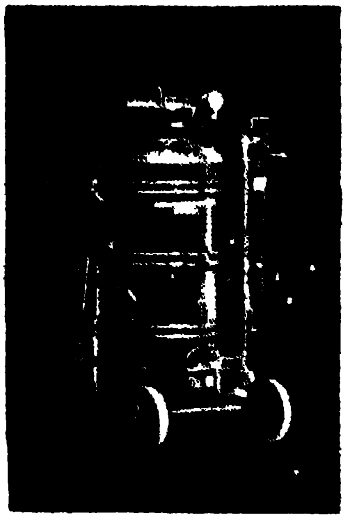

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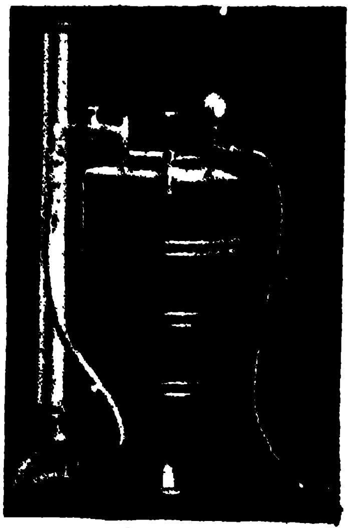

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Public Co-operation with the Fire Brigade

G. D. Jeavons,

Late Senior Training Officer, Bombay Rescue Corps.

I WAS once a proud member of an organisation that could turn out in 19 seconds from the first stroke of alarm bell to rear wheels over the threshold. This was no wild scramble but a science. The movements of every man were studied, the position of every item of clothing and equipment arranged. This, together with hour after hour of practice, ensured a high standard of performance.

But all our efforts to save split seconds were futile unless those in need of our help were also reasonably prompt and efficient in utilizing our services. *To pay for a Fire Fighting Service, and then not to co-operate with it, is not just folly but a social crime.* It matters very little whether this lack of co-operation springs from ignorance, indifference, or inertia—the result is exactly the same.

Happily, most citizens go through life without being concerned in a serious fire. But you may be involved in one before you have even finished this article. Suppose you needed the fire brigade *now*, are you perfectly trained to summon them or would you just proceed by instinct along lines you hope would produce results? Any citizen with a spark of civic duty should be thoroughly prepared for such an emergency; for lack of responsibility in this matter is a crime against the community, which may well result in needless destruction of life and property, including perhaps your own livelihood or home.

Apart from your own personal preparation, next time you hold Fire Drill in your organisation ask yourself if you have appointed certain specially selected members of your staff whose duty it is to summon the fire brigade and if they have been trained to do it.

In most big towns there are street Alarm Boxes, and they are by far the best method of summoning the fire brigade. As you sit reading this article now, do you know the location of the nearest alarm box and how to use it? On a positive answer to this question depends your livelihood and the safety of your office or home. It is no use saying that a fire is unlikely to break out on your premises; for fires, like babies, appear at no fixed hour, and on a dark and rainy night you may be searching frantically for an alarm box and not know how to use it even if you have the luck to find it.

Let us assume that you do know the exact position of the alarm box nearest your business and your home. Do you know how to use it in case of need? First, of course, you break the glass. The most suitable glass we can find has been fitted to this alarm box, but as yet we have not found a glass that will not cut the clumsy. To break the glass effectively and safely, use a stone or your pocket-knife or your walking stick, or remove your shoe and, holding the toe, use the heel as if you were hitting with a hammer. Perhaps a nearby motorist has a tool handy. Perhaps you carry a cigarette case. Anyway, a second's thought as you approach the alarm box will provide some better way than jabbing your bare fist through glass.

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Having broken the glass without delay or damage to yourself, do not imagine that you have summoned the fire brigade. Do not stand **staring at the hole you have made as if you** expect the fire engine to **appear** out of it like the genii in Alladin's Lamp. Trim off any jagged point of glass with whatever you have used for breaking it and turn the handle before you steadily and at an even, smooth pace for about half a minute. You can turn it as long as you like but keep a steady, regular, even speed. Do not wrench and snatch it as though you wanted to break it off; the breaking instructions are confined to the glass. It is no use searching or shouting for a telephone in an alarm box. But do not let that upset you; the fire brigade know it is a fire or you would not have broken the glass.

As you turn the handle steadily you generate a small electric current that causes a buzzer flap to open at the fire station and that flap bears the same number as the alarm box you are using. Having turned the handle, do not dash away round some corner, nor rush back to see how the fire is getting on. *Stay by the Alarm Box until the fire engine comes.* As soon as the numbered buzzer flap drops at the station, the engine comes at the greatest possible speed to the *alarm box* of the corresponding number and stops there to pick you up. You can then ride on the engine, directing the driver by the shortest route to the site of the fire. **Here again, the fire brigade has a right to your intelligent co-operation; for they have taken a lot of trouble to reach the alarm box speedily. Do please help them to locate the fire while it is small. That is certainly better than causing delay until the fire has broken through a roof and is a blazing beacon that needs no help to locate.**

Possibly all this time you have been impatient to tell me how much quicker you could summon the fire brigade if you used the telephone. That ought to be true, but please accept an expert's opinion that the telephone is a very bad second. If a telephone were more serviceable than an alarm box, neither the expense nor the trouble of setting up alarm boxes would have been undertaken in an age when telephones are in extensive use.

The difficulty is that people talk too much over the telephone. And in their excitement, they invariably withhold the *only* thing we are interested in knowing, namely, the *location* of the fire. But in case you should have to use the telephone, every telephone directory has some simple number which the most trembling finger can dial or the most quavering voice pronounce. Do you know yours? Or would you have to grope about for the directory, perhaps in a smoky room? Having made contact over the telephone with the fire station, refrain from entering into a lot of explanation as to who or what you are. Whether it is right or not, we are just not interested. We do not care whether we are summoned by a mistress or a servant. The fire brigade is a perfectly democratic institution. It turns out with the same alacrity and equipment at the summons of a dustman or a duke.

Next, do not bother to give us a breathless description of the fire. We can be safely left to guess that you have not rung up our special number to invite us to a birthday party. Do be careful to make clear where you want us. Give us the exact address of course, but also give us a lead to the main locality so that we can travel swiftly and confidently.

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It is difficult for us, in the artificial light of a fire station, to have to search on a small scale map for some obscure place, like No. 5, Accacia Ave. But we might have been half-way through if we could only have more details like: "Second turn on the right from Station Road," instead of information that the fire has spread to the curtains. The message would have been perfect if all that was said was: "Fire at No. 5, Accacia Ave. Second turn to right from Station Road." Indeed, the first two words could be left out without affecting our conduct.

Now let us deal with the fire engine on the road. To explode an old misconception, a fire engine has no legal priority or exemption from ordinary traffic regulations. When next you hear its bell, do not interpret it as a peremptory demand that you clear the way in a manner established by law. All that the bell is saying is: "We are on an urgent journey to assist your fellow citizens; please extend to us all the help you can by clearing our path." Our good friends, the police, alter the traffic lights and regulate traffic to help us when they can. But all this is done of their own goodwill and not on account of any legal obligation. The good citizen also helps us by subordinating his own traffic rights to us and in courtesy lets us pass. To save fatigue of watch-room duty, the fireman puts on his tunic, boots and helmet while travelling. So please do not insist on driving about 3 feet in front of the near fender of the fire engine. Dressing on a moving vehicle has enough risks without sudden braking or swerving to avoid collisions. Firemen have been injured and even killed by irresponsible behaviour on the part of pedestrians and other road traffic. Now that you know that the fire engine has no legal priority over you on the road, it is your duty to give it right of way.

On its return journey the fire engine does not ring its bell, but takes its normal place in a traffic block. The very gentle police still show every consideration—and so should you. Returning from a fire, the fireman rarely feels like a hero. He is usually wet and cold, tired and hungry, and if you delay him in reaching his station, he may be summoned out again before he has even had the time for a rub-down and a cup of tea.

Having answered your summons to a fire, there is still another service you owe the firemen. They cannot know what is stored in your premises. If you have any material that has a special reaction to fire or water, see to it at your next drill that some responsible member of your staff is given the special duty of warning firemen when they arrive. They should be told the nature of the goods, their location, and quantity.

In many towns, hydrants are covered with cast-iron covers flush with the ground. If such hydrants exist in your community, please see that they are clear and neither rusty nor full of dirt. Sometimes we have had vexatious and costly delays getting at the water supply. Also, supply the fire brigade with immediate and accurate information as to additional or alternative water supplies, or your livelihood may be destroyed while the search is on. Do not forget to impart all this and other vital information to the night watchman as well as to some member of your working staff.

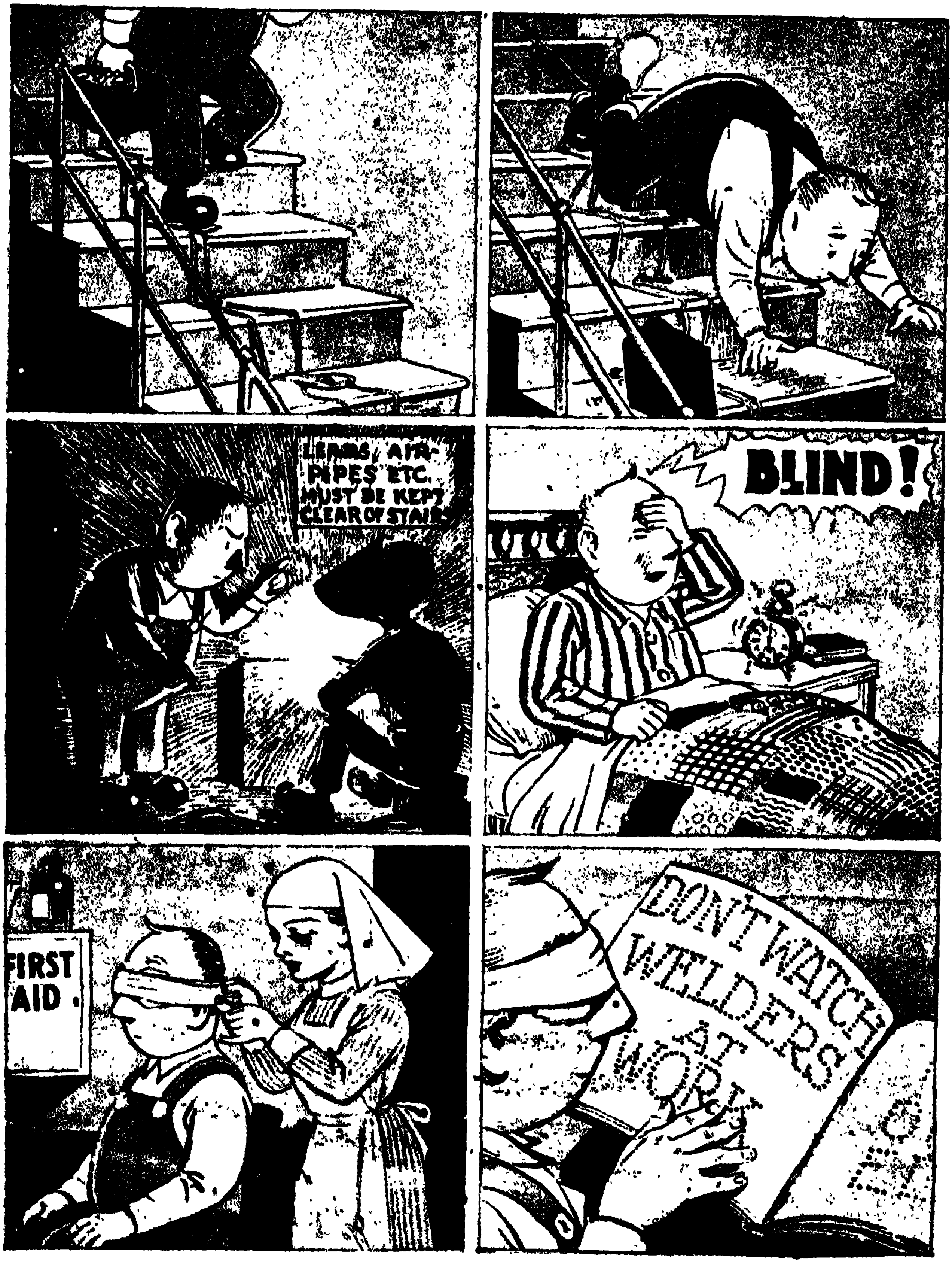
Lastly, do try to be courteous and helpful to the fire brigade to the utmost of your ability. Remember they are doing what they know to be right, even if you cannot understand the reason for what looks like vandalism. In spite of stale jokes, firemen do not inflict unnecessary damage. In our experience, very few people indeed ever say: "Thank you for putting out the fire," or "Thank you for saving something." But they frequently complain: "Look at the damage you have done!"

Fire Brigades spare no effort to be of maximum service to you; but their efficiency and success depends to a large extent on your understanding co-operation. In case you have not had the patience to read through all this, let us summarise the little we ask you to do to help us and, incidentally, to help yourself:

1. Locate the street alarm boxes nearest your home and business and learn how to use them by day or night.
2. Memorise the Fire call Telephone Number; having contacted us, give us the exact address and a guide to the main locality.
3. Extend the utmost courtesy to the fire engine on the road.
4. Ensure, under every circumstance, that the firemen shall be informed accurately of any special risks.
5. Ensure that the firemen shall have unhindered access to the water supply and prompt information of alternative supplies.

EFFICIENCY NEWS, February 1946

PERCY VERE BY MENDOZA


LEADS, AIR-PIPES ETC. MUST BE KEPT CLEAR OF STAIRS
BLIND!
FIRST AID
DON'T WATCH WELDERS AT WORK

Courtesy: *R.S.P.A.*

ROAD SENSE AND ROAD COURTESY

A RECENT issue of the Journal of *The National Safety Council of Australia* carries an excellent article on "Prevention of Road Accidents." Breaches of road sense and road etiquette on the part of children, pedestrians, and cyclists are listed conveniently with a view to reducing the great toll of life taken by these malpractices.

We have pleasure in reproducing excerpts from the article referred to:

"The essence of Road Sense is to anticipate the follies of others. Experience shows that the following are some of the failings which most frequently cause accidents:—

Stopping Capacity:

Too many drivers underestimate the distance within which they can pull up in an emergency and expect mechanical impossibilities from brakes. Even with the best adjusted brakes, the stopping distance increases rapidly as the speed increases. A falling gradient and slippery or greasy surfaces make a greater stopping distance necessary, and the risk of skidding is increased. The greatest braking effect is produced when the wheels are almost (but not quite) prevented from revolving. Locked wheels reduce the braking effect and invite a skid.

Finally, it must be remembered that, between sight of the emergency and full application of brakes, an appreciable interval of time may elapse, varying with the temperament of the driver. Travelling at 20 m.p.h., a distance of nearly 30 feet is covered in one second.

By the same token, the cyclist who carelessly rides across an intersection, and the pedestrian who meanders on to the road, often give the motorist no possible chance of avoiding a collision with them.

On the Part of Children:

1) Running on to the road after toy or playmate, or out of school, shop, home or playground.
2) Playing games on the roadway.
3) Stealing rides on carts, etc., and falling or jumping off.

It is never safe to assume that they are aware of your presence, especially if they are running. Very young children cannot judge speed or distance nor realise danger, and special caution is always necessary when you see them by the roadside. No precaution which drivers can take can be too great. Children may be educated in safety methods, but implusive actions of children will always tend to neutralise some of this teaching.

On the Part of Pedestrians:

1) Stepping off foot-paths without looking.
2) Hesitating or dodging about in traffic.
3) Crossing from behind or in front of vehicles without looking.
4) Boarding or alighting from trains, etc., without looking.

On the Part of Pedal Cyclists:

1) Sudden swerving either to overtake or due to lost balance.
2) Skidding on tramlines or greasy surfaces.
3) Turning without signalling.
4) Overtaking on the wrong side.
5) Holding on to vehicles.
6) Inefficient or no red rear reflector at night.
7) Riding too many abreast.

We have briefly set out the pitfalls for which the motorist must be on guard, but the child, the pedestrian, and the cyclist must, of course, do their share by not acting in such a manner as to create contributing factors to accidents. All road users must cultivate road sense and road courtesy."

In the opinion of the *National Safety Council of Australia*, speed on the part of motorists leads to more accidents than any other cause. "The modern capacity for quick acceleration and powerful braking is as much a danger, if misused, as it is an aid to safety when skilfully used

We could discuss road habits at great length if we were to deal fully with the many factors that contribute to safe driving, such as knowledge of rules of the road, hand signals, changing direction, and the danger of overtaking on bends or hills, cutting in, and so on, and debate the necessity of the pedestrian crossing only at intersections and to realise that under certain conditions he is invisible on a road at night, etc. and stress that under the law the cyclist is always in charge of a 'vehicle.' However, such observations would only serve to emphasise that to think before you act is the basis for accident prevention. We must never forget this if we are to keep free from mishap."

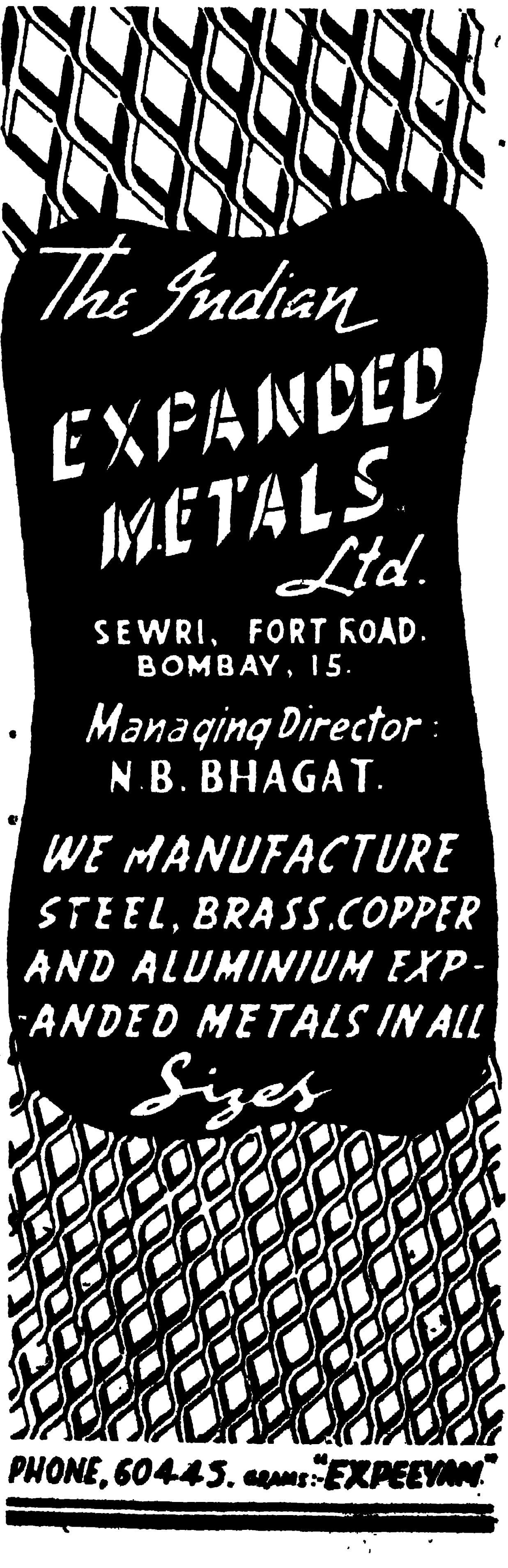
* * * *

SAFETY SONNET

SPIRIT OF YOUTH
CHISELERS IN MARBLE WIN FAME AND RENOWN.
R.A. HURRY
HE DIDN'T BELIEVE IN STOP SIGNS
CHISELERS IN TRAFFIC WIN SIX FEET OF GROUND!

Solution to brain teasers

1. The number is 84.
2. Shortest length ladder is 22.4 ft.
3. The length of the rope is 5 ft.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THE COOK—HIS WORK AND WELFARE

This, the third article in the series on Canteens, discusses not only the duties of the cook, but also the responsibilities of the employer in relation to his cook's welfare.—Ed.

Cleanliness: Since he is engaged in the handling of food, the cook's personal cleanliness must be of the highest standard. He should be required to have a *bath* at least once a day. His *hands* should be scrupulously clean, and his finger-nails should be scrubbed after visits to the latrine and before meals. He should have his *hair* cropped short, and kept clean and well brushed. Dirty and decaying *teeth*, harbour germs and give rise to a variety of digestive troubles. The cook should, therefore, be encouraged to observe the principles of dental hygiene.

Clothes: The cook should be provided with at least three sets of washable overalls. These should always be worn at work, and changed as soon as the job is finished. These overalls, as well as all underclothing, should be spotlessly clean. Dirty clothes, oily with sweat and grease, are apt to contaminate food. No clothing, whether personal or spare, should be allowed to hang or lie in the kitchen.

Debt: A servant in debt is seldom efficient. It would be wise on the employer's part, therefore, to work out some scheme to keep his cook out of debt. The latter may be made to put a small amount in a savings account every month, the employer contributing a like amount by way of encouragement. This will stimulate thrift, and help in keeping the cook from the professional money-lender.

Fines: On this subject, a well-known social worker recently pointed out that "employers have no legal right to fine their servants. And as for making a servant pay out of his meagre wages for every cup or saucer he happens to break, I feel we have no moral right to do that either. Accidents *will* happen, and we employers can afford to pay for them so much more easily than the servant can."

Habits, Personal: Cooks must be taught to place a handkerchief in front of the mouth and nose when coughing or sneezing in order to prevent the spread of infection. The objectionable habit of spitting must also be strictly prohibited. The germs of the diseases which live in the nose, throat, and air passages are spread in droplets of saliva which are sprayed out during coughing, sneezing, spitting, or even talking. The germ-laden droplets float about in the air and are apt to infect food as well as cooking utensils. This must be especially guarded against in the case of 'carriers' of dysentery, typhoid, and other serious diseases.

Health: A medical examination should be carried out before a cook is employed so as to enable the employer to know that he is medically fit to work as a cook. A cook must obviously be medically fit as his efficiency depends largely on this. No one should be employed in any capacity in the kitchen who has suffered from dysentery, typhoid or para-typhoid fever. Similarly, no person suffering from tuberculosis or V.D. should be employed. Any person who has suffered from typhoid or para-typhoid fever should be required to undergo a laboratory examination to make sure that he is not a carrier.

Illness: Cooks must on no account be allowed to continue at their work if suffering from diarrhœa or other illness. The best plan is to shift an ailing servant to a suitable hospital or to his relatives until he is fit medically to report for work. A person under treatment (especially if he is afflicted with venereal disease) is a menace if he is allowed to handle food.

Learners: Young persons undergoing training in the cooking profession should be carefully instructed in the fundamentals of hygiene. Observance of the points listed in this article should be insisted upon without exception at all times. The cook plays an important part in the maintenance of the health of the people he serves.

Leave: There is no legislation in this matter in India. Servants are often required to work for long hours every day and all round the year. If they do ask for occasional leave, they are often asked to provide the wages of the "budli." This does not make for efficiency nor does it foster cordial relations between the servant and his employer. A few hours off every week;

and a week's leave every year, would seem to be the minimum we should allow our servants.

Leave, Employer's : When the employer goes on long leave or furlough, the general practice is to dispense with the servants for the time being. In such circumstances, it would seem wiser to recommend these servants to friends needing assistance, or to pay them half salary during the period of the employer's leave and relieve them of all work.

Minors : The employment of minors as domestic servants should be discouraged. If children under twelve are employed in this capacity, the employer should, on humanitarian grounds, see to it that the hours of these minors do not exceed a reasonable limit. Moreover, " we must see that their work is not strenuous and that they are given ample opportunity for rest and for play. . . for these are the elementary rights of childhood in addition to its wages."

Quarters : Most buildings, including new ones, are grossly lacking in the matter of housing for servants. A single room is sometimes provided for several servants and their families. The responsibility of the employer in this connection is to do his best " to guarantee his servants decent housing and normal family life—to both of which any rational being is entitled."

Recess : Servants should be allowed at least two hours' recess every day. During this period they should not be called upon to do any sort of work. This recommendation is made not only because it is humane, but also because no servant can be expected to work efficiently from 5 in the morning until 11 or 12 at night.

Records, Health : A record should be kept of staff employed in the handling of food. This should include the dates of carrier tests, inoculations, vaccinations, and other facts relating to the cook's medical history.

Wages : It is difficult to be dogmatic in this matter because of the variety of practices prevailing in the payment of cook's wages. Some are paid in cash; others both in cash and in kind. The general principle, however, should be to ensure that the compensation is fair in relation to the work done and that it represents an adequate living wage.

Dependability is Important

The " No. 1 " Quality! A man may be highly intelligent, possessed of all the well-known talents, and yet, if he can't be depended upon, what good is he? In agency work, as well as in other lines, I believe that most sales managers will tell you that they have far more hope of developing a man who is dependable than the brilliant fellow who can not be depended upon.

In our own agency, in the past, we have had bright men who have failed utterly because they did not have the balance wheel of dependability. They would be fine salesmen, attractive personally, and look like sure winners : but it would develop that they could not be depended upon. They would be late to meetings, late for appointments. They would plan their work for a day or two, and then neglect it for the next two or three days. They might get six interviews one day, and then run along for two or three days without any.

I don't believe there is anything that will make a person lose faith in another as quickly as a few broken promises, and a few broken appointments. I believe you will agree that certain of your acquaintances have seriously injured themselves in your good opinion, in this way. In our business especially, dependability is paramount, because ours is really a serious business where we give advice to people which has far reaching effects. If people can't depend upon us to do what we say we will do, all of our smartness is to no avail.—*Hugh S. Bell's Weekly Bulletin.*

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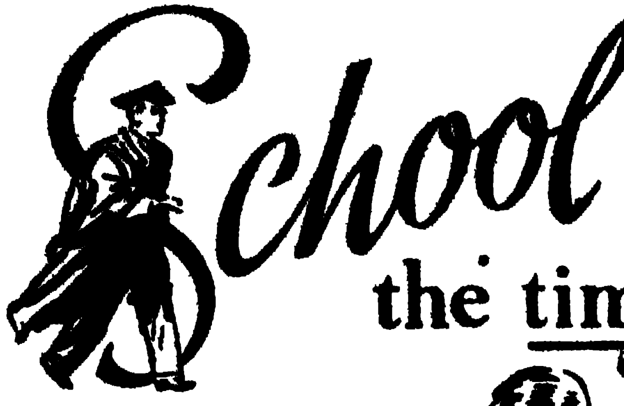
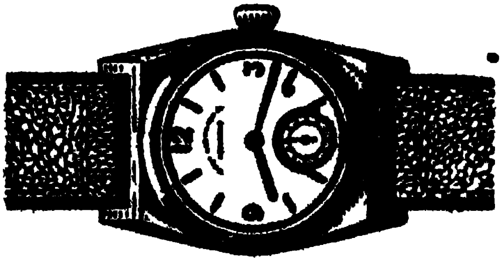


the time factor

Punctuality is one of the first lessons children should learn, for it will stand them in good stead throughout life. It is a good idea to let your children have a watch as soon as they are old enough to value it. School life is an organised routine: the various activities are run to a time-table and a reliable watch is necessary to masters and pupils alike. Soon we hope to have many sturdy "West End" models to choose from.



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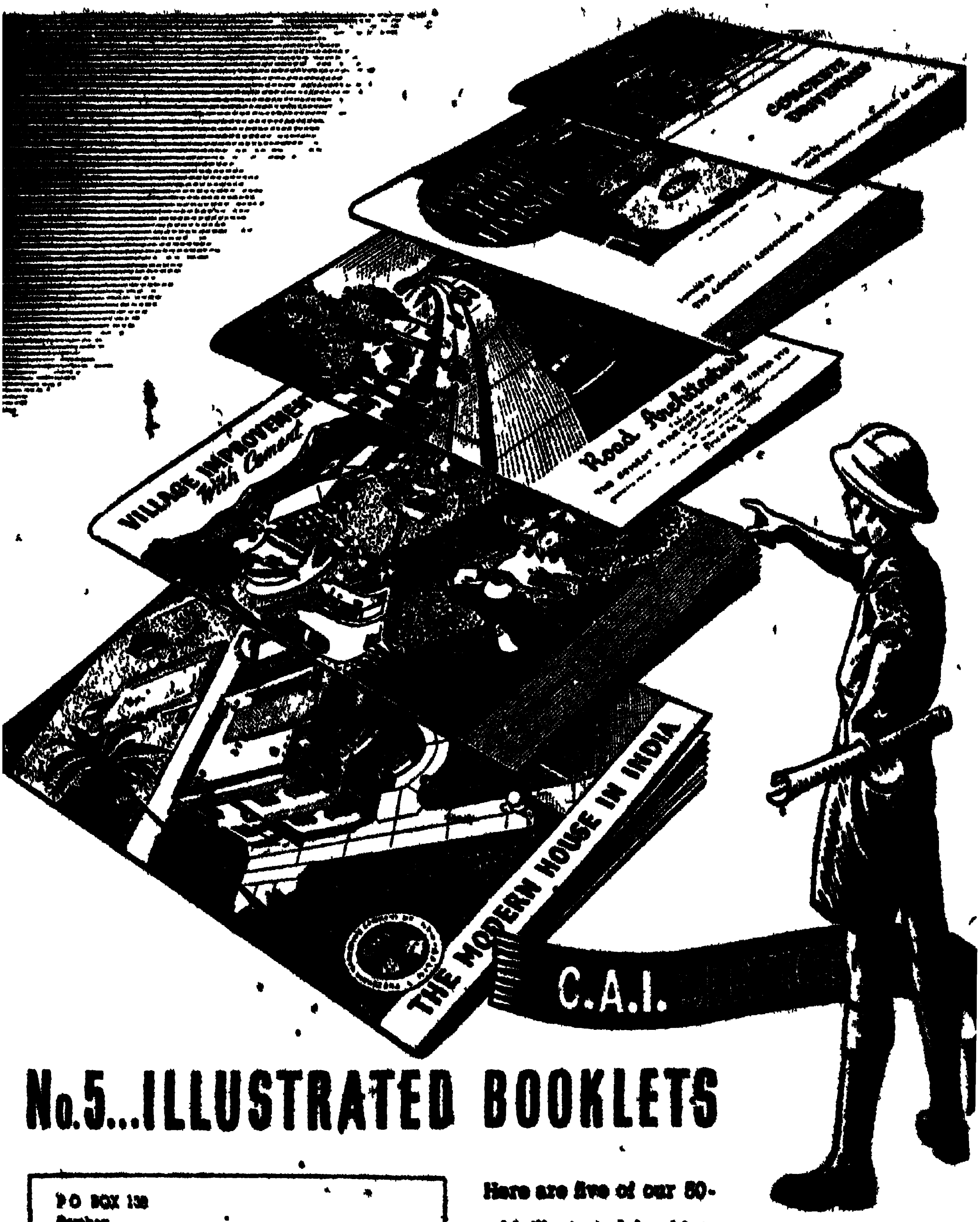

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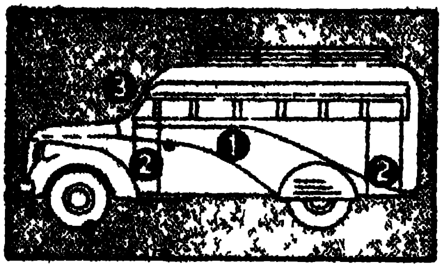

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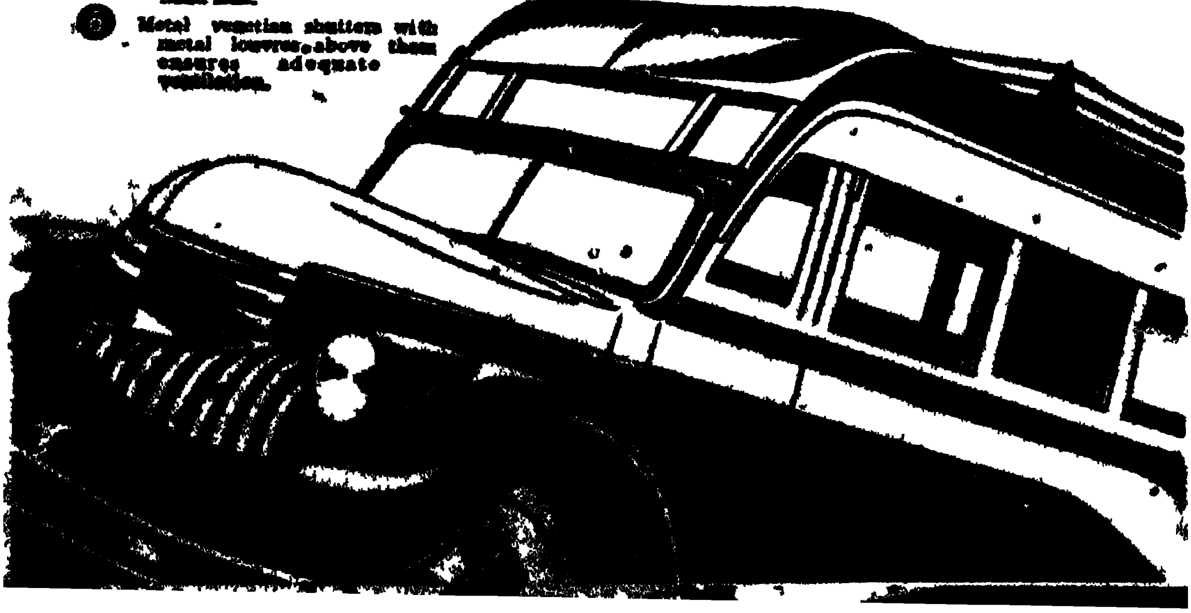

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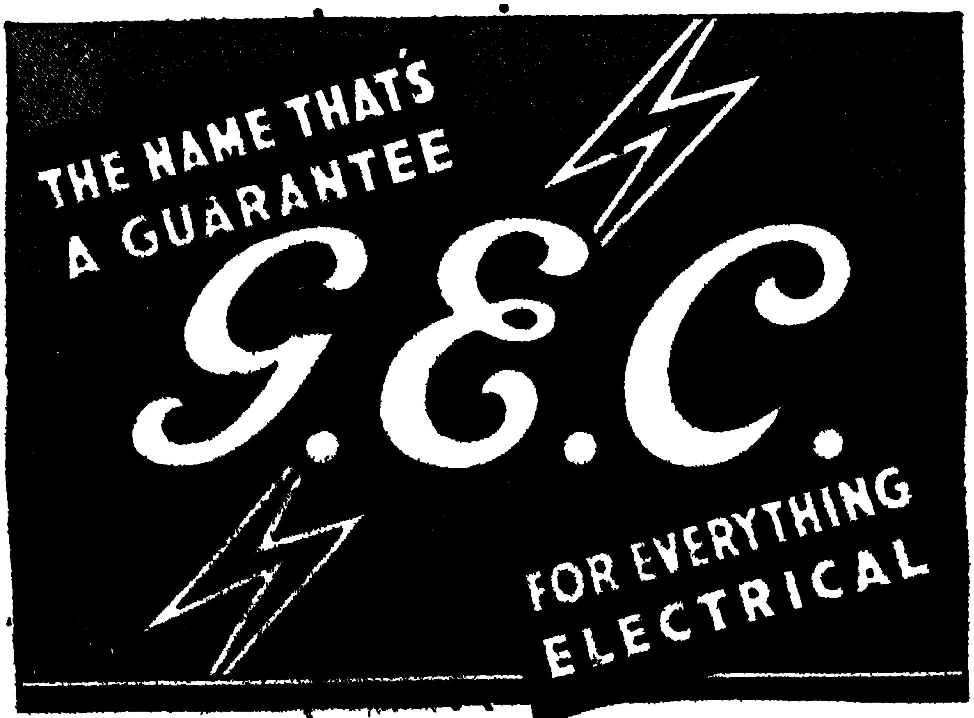

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EFFICIENCY NEWS

Vol. XIII. No. 3. MARCH 1946

CHOOSING A CAREER

THE authorities in charge of demobilization have done well to prepare advance schemes for the rehabilitation of members of the services and those engaged in war work. Unlike the chaos that followed the end of the last war, there will be no rudderless craft moving aimlessly about, seeking any port nearest at hand. This time, every effort is being made not only to ensure careers for all those who are disbanded, but also to ensure that each man and woman enters the career most suited to his or her individual abilities, temperament and qualifications.

With a view to making the maximum use of manpower, efforts were made during the World War I to evaluate men and to place them in positions according to their aptitudes. Tremendous strides have been made in this field of vocational guidance since that time, and World War II served as a powerful impetus to the selection and placement of men and women according to their abilities, aptitudes and temperaments. Let us hope we shall not forget in Peace what we have learnt in War.

Post-war schemes especially in industry will be futile if the subject of "Choosing a Career" is left to haphazard methods which at present exist in this country. India needs a thorough overhauling of her educational system. But this will result in little benefit to industrial India, unless vocational guidance is accepted as a responsibility of the authorities and incorporated in the scheduled work of the staff with a qualified psychologist in charge.

When this is done, the work is only half finished. Vocational guidance may play an important part in ensuring happiness in one's work and remuneration in proportion to one's abilities; but much of the work of the educational vocational adviser will be wasted if vocational selection is not undertaken by business, trade and industrial organisations. Vocational guidance in educational institutions must have its counterpart in the office, workshop, and factory.

In England, much headway has been made by the National Institute of Industrial Psychology, London. Tests for measuring general intelligence, aptitudes and special abilities have been formed, standardised and validated. In India, the Department of Psychology of the Calcutta University have been working on similar lines; but unless industry gives more than a helping hand, such experiments will not bear fruit of any value.

The use of standardised tests in vocational selection is extensive in foreign countries; and if India is to take her place with other industrial nations she must learn to keep step with them. It is important that all Universities in India should pay full attention to industrial psychology in its application to business, trade and industry, and that industry should co-operate with the universities and even subsidise such enterprise.

PERSONNEL MANAGEMENT IN INDIAN INDUSTRY

AN official Government publication states that it is intended to send several hundred Indians abroad during 1946-1947 as part of the programme for India's post-war industrialisation. It is also intended that a proportion of these students should receive training in other than the purely technical professions. This is a step in the right direction, for we need not only qualified technicians but experts in other fields of industrial activity as well.

To give only one illustration in this article: it is widely admitted today that the management of men is a highly specialized function under modern industrial conditions. Yet it is a fact that we have no men specially qualified to handle the complex labour problems which are an integral part of large-scale industrial organisation. This aspect of modern industry has received in recent years increasing emphasis both in England and the United States of America. Courses in Personnel Management are arranged with the approval and assistance of Government agencies, as well as by private institutions working on their own initiative. A syllabus of one such Course which we have just received illustrates the wide scope of subjects required to be covered by would-be Personnel Managers. This excludes, of course, the 'apprenticeship' required to be put in by candidates for this profession.

The Course we have just referred to is divided into two parts. Part I is devoted exclusively to psychology, both in its theoretical and practical aspects. Besides a study of the principles of psychology, candidates are given several lectures on the growing importance of this science as applied to industrial life: the selection of staff, the adjustment of aptitudes to occupations, the training and up-grading of employees, the handling of grievances, problems of morale and interest, and so on.

Part II of the Course begins with a historical survey of the development of industry and industrial relations during the past 100 years. This covers also the growth of trade unions, the attitude of the State to changing industrial conditions, and the growth of industrial management as a specialized profession. Further lectures deal with the principles and procedures of Collective Bargaining and the machinery used for this purpose in different industries: the formation and working of Works Councils, Joint Production Committees and other bodies set up to ensure not only economical production but also harmonious labour relations. Then are discussed the principles of wage determination; the structure of wage-rates, whether these are fixed on a time basis or on payment by results. The final lectures deal with the future of industrial relations, and the course closes with a Brains Trust.

This Course is typical of innumerable courses on the subject run most successfully both in the U.K. and in the U.S.A. The lectures are held generally in the evenings, after work hours, and usually not oftener than two or three times in a week.

Our point in discussing this subject at all is to suggest that it is high time we started similar courses of instruction here. As a first step in this direction, it is up to industrialists in this country, especially those employing a large working force, to send suitable young men either to England or to America for expert training in the vital field of Personnel Management.

SO YOU'RE GOING TO ENGLAND?

Hundreds of candidates are being sent to the United Kingdom both by Government and private organisations for specialized training. It has been revealed that a high percentage of these students suffer avoidable disappointments and hardships due to their ignorance of conditions prevailing in England at present. It is in order to help such students who are about to embark for the United Kingdom that the following notes have been especially prepared.—EDITOR.

IT is true that the War has ended, but not the shortages which inevitably continue through the immediate post-war period at least. It is quite understandable that, until the nations revert to normal peace-time production, commodities should be scarce. Since you are going to England, you should know what to expect. To be quite frank about it, you are in for a very austere time. You will have to do with much less than you have been accustomed to, and it is wise to face this fact at the outset. You have one consolation: you will be in good company, for a whole nation will be sharing your trials and vexations.

Accommodation: To start with, accommodation is very difficult to find. There has been little building activity during the last 6 years, while hundreds of thousands of buildings have been destroyed or rendered uninhabitable during the War. You would be well advised, therefore, to ask your friends in England to look out for accommodation for you well in advance, and to make at least temporary arrangements. Hotels are unable to accommodate you for more than 4 or 5 days, and then only after considerable notice has been given.

If you are fortunate enough to get accommodation in a home, you will enjoy a certain amount of home life, more especially if you give a hand (as everyone does) in the domestic side of the house—by making your own bed, cleaning your own shoes, helping with the washing and drying up, and assisting with the shopping.

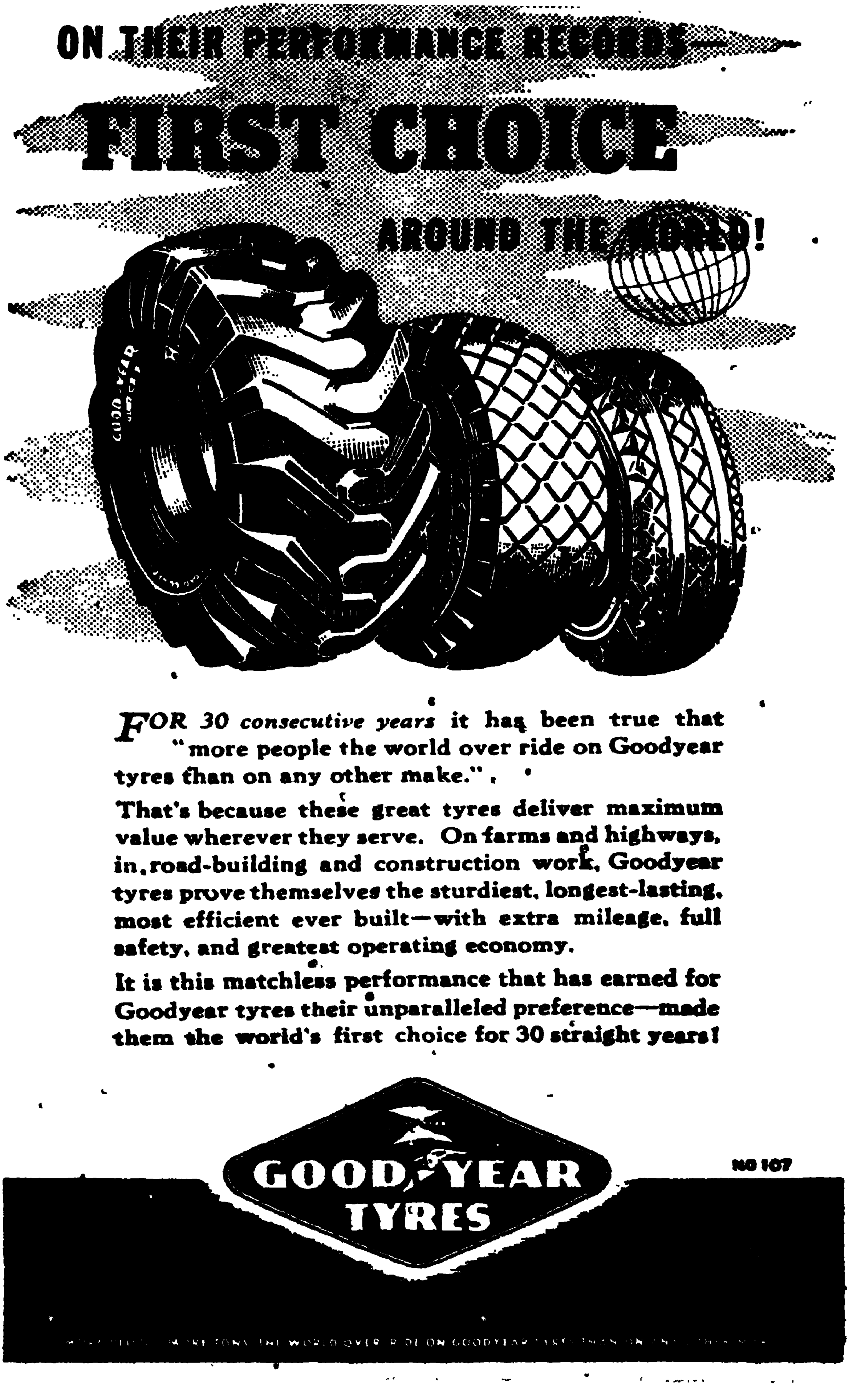
It is advisable to secure accommodation near the centre of your activities, as this will save you travelling time and allow you to take advantage of the very excellent lecture services that are available in the larger towns.

Arrival: Upon arrival at your destination, you will have to report to your local Food Office; upon presenting your passport there, the officials will present you with an Identity Card and a Ration Book containing a certain number of food, clothing, and personal points. If you are going to stay in England for more than 6 months, and if you can make a case for it, you may be able to get extra clothing coupons on applying to the Board of Trade. In London, this is in Victoria Street, S.W.1.

Clothing: Every civilian in Britain is allowed 24 clothing coupons for 8 months. This is insufficient, as you will have to exchange 9 for a pair of shoes, 1 for a handkerchief, 7 for a shirt and a couple of collars, and 26 for a suit.

With this in mind, let me emphasize that you should bring all the clothing you will want for the period of your stay. In regard to quantity, take the following into account:

(1) Half the year is cold. This means that you will need warm clothing and heavy warm underwear



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(vests and long under-pants), long socks or stockings, and a warm overcoat. A waterproof and an umbrella are most necessary as it rains a lot.

(2) Laundry is expensive, and the time taken to deliver a wash (if you can find anyone to do it) may be several weeks. This means that you should have a sufficient number of each article to carry you over from one wash to another.

(3) Clothing (especially items like shirts and collars) can with advantage be of a colour (such as brown) that does not show dirt easily. A white shirt gets dirty in a day.

You would be well advised to learn to wash clothes, especially woollen underwear, for you will probably have to do this yourself.

Confectionery and Sweets: These are rationed at the rate of ¾ lb. per four-weekly period. Special coupons known as personal points are included in your ration book for this purpose. Points not used in one period cannot be carried forward to the next period.

Food: You will have to hand your ration book (excluding Sweet Points and Clothing coupons) to the proprietor of the place you are staying at. He will draw on them as they become due.

Knowing how short food is it would be wise to arrange for your people to send you a monthly food parcel. The authorities allow a 5-lb. food parcel to one address per month. Tea, margarine, and cheese will be found to be most acceptable.

Certain foods are rationed on the weight system while others are rationed on the points system. Each individual is entitled to the following weekly ration:

Bacon	—3 ozs.
Fats	—8 ozs., comprising 2 ozs. lard and the remainder proportionately butter and margarine.
Eggs	—1 shell if available. Dried egg may also be bought at the rate of 1 packet (equivalent to 12 eggs) per ration book per month.
Meat	—1/1d. worth.
Sugar	—8 ounces.
Tea	—2 ozs. one week, 3 ozs. the next.
Milk	—2 pts. a week (liquid); 1 tin of dried milk (equivalent to 9 pints) is allowed per ration book per month.
Cheese	—3 ounces.
Soap	—12 ozs. one month, 9 ozs. the next.
Jam	—1 lb. of preserve per month per ration book.

These figures may not convey their full meaning to you; so weigh or measure them out and lay them out on a tray so as to correctly understand what basic foods you will have to live on for a week.

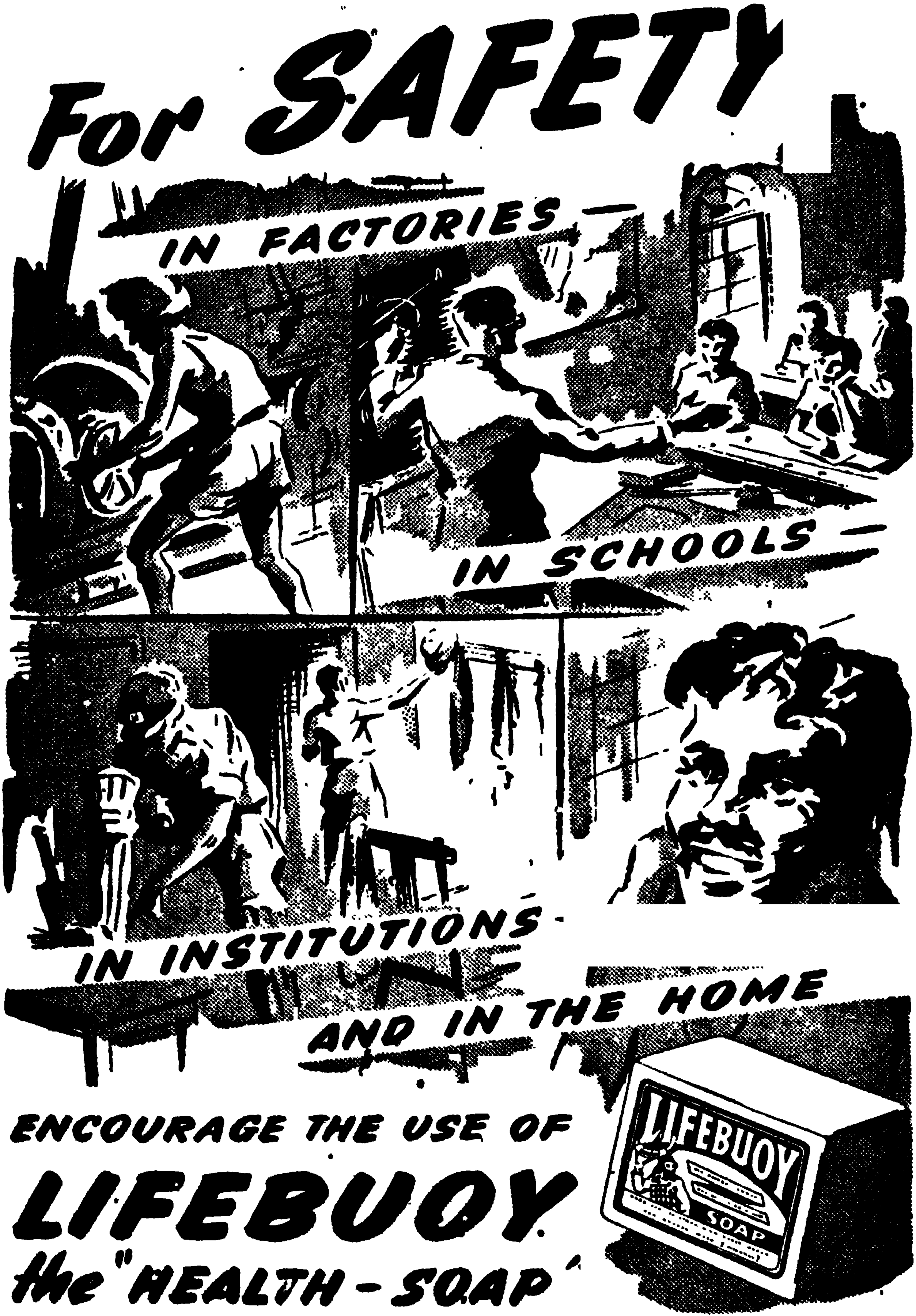
Many other foods are rationed on the points system. They vary according to the supplies of the particular food in the country; for example, at the time of writing, the number of points required for some foods are as follows:

24	points	for	a 1-lb. tin of ox tongue;
16	,,	,,	a lb. of currants;
16	,,	,,	a lb. of chocolate biscuits;
12	,,	,,	an 8-oz. tin of salmon (3rd grade)
8	,,	,,	a lb. of stoned raisins;
4	,,	,,	a lb. of stoned dates;
4	,,	,,	a lb. of ordinary biscuits;
2	,,	,,	a packet of oats (porridge) and
1	point	,,	a lb. of split peas.

In your ration book you are allowed 5 points per week; this will show you how little you can get.

The following foods are not rationed:

Bread, cakes, and flour (cakes are difficult to obtain, and one has frequently to queue for bread).



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Fish, game, and poultry (for fish you will have to queue; while game and poultry are very expensive and almost unobtainable).
Fruit (unobtainable).
Vegetables (green) are also unrationed except in tins. There is little variety in this respect also.

Friendship: You will find that the people are inclined to be reserved. It is up to you to break the ice, starting with people of your own sex. There are many possibilities in this direction: the Y.M.C.A., a Cycling or Hiking Club in the summer, Students' Associations, and so on. People are usually most helpful in directing you towards your destination. A smile and a pleasant manner go a long way.

Miscellaneous: You will find it advisable to bring a couple of warm *blankets* with you as these are in short supply.

Thick-soled *footwear* is necessary, especially for the winter months.

As *serviettes* are scarce, bring a double supply of handkerchiefs: one set for use as handkerchiefs and the other to use in place of serviettes when you have your meals out.

As *soap* is rationed, bring some toilet and washing soap with you. Pack it in the toes of your spare shoes.

Since *tobacco* is in short supply, you should bring in as much as the Customs will allow. Two hundred cigarettes are allowed free, and another 200 may be brought in if you declare them to the Customs. Matches are also scarce, but the utility lighters are serviceable.

Towels are scarce too; it is advisable, therefore, to include a couple of each variety in your kit. You will find them especially useful when you travel for only a few hotels supply soap and towels.

Restaurants: Food in restaurants is unrationed so far as their clients are concerned. You need to get there early in order to get the best dishes: 12.30 for lunch is not too early. You will have to queue for popular restaurants or book a table 3 or 4 days ahead.

It is extremely important to be civil to the staff. One restaurant in London puts it this way: "Notice—Please be kind to our waiters. We can get plenty of customers."

As sugar is in short supply, you may or may not be served with a portion of sugar (one or two lumps). If this worries you, take a small canister of sugar as this is better than saccharine.

The maximum price for a meal has been fixed at 5 sh. per head, but the so-called posh restaurants add other charges- 1/6d. for cover, so much for cabaret, and so on.

Crockery is very short and even in good restaurants you will be served with chipped or cracked cups. If you have to use one of these, it would be a wise precaution to avoid the damaged edges.

Alcoholic drinks are very expensive. Beer is the cheapest.

Shopping: You will find it an advantage to restrict your shopping to one shop as far as possible, for they will get to know you and may include you on their quota in due course. This applies to most consumable commodities.

Travelling: Vehicles (especially the suburban trains to cities and on the main lines on Mondays and Fridays) are crowded. If you are making a journey extending over several hours, it is worth taking an enamel mug and a few sandwiches with you. Cut your luggage down to essentials; two small suitcases which you can carry are better than a trunk which will require the help of a porter—if you can find one!

TRAINING WITHIN INDUSTRY

A brief résumé of a recent Conference convened by the Institute of Labour Management.

TRAINING Within Industry is not a scheme to teach supervisors how to do their job but to teach them how to *instruct* on their job. It is designed to bring out the skill and knowledge of the supervisor. It involves no new principles but is merely a method of applying principles a method of approach to the worker.

The qualities required by a supervisor or leader are: (1) knowledge of the job and its requirements; (2) knowledge of his responsibilities; (3) skill in improving methods; (4) skill in instruction; and (5) skill in handling or leading people.

The method of training discussed here has been found an excellent mental stimulus, helpful even in the solution of personal problems, for it aids the development of latent talent.

The purpose of training Within Industry is to develop job instruction, and the aim of job instruction is to get a job done correctly, quickly, and conscientiously.

There are three ways of instructing: First, by telling. This method is not of much use by itself. Second, by demonstration. This method also has its limitations. People may copy motions but fail to understand why the motions are necessary. Third, by the learner practising. Again of limited value by itself, and likely to develop wrong habits in the learner if he is merely left " to find out for himself." Training Within Industry combines all three methods.

Job instruction must be carried out to a carefully prepared pattern. First of all, prepare the learner by putting him at his ease. State the job very clearly and get him interested in it. Place him in the correct position for observing every detail of the demonstration.

The next step consists in presenting the operation stage by stage, being careful to give the learner no more than he can master at one time. Instruct carefully and patiently, stressing each key-point.

The third stage is this: let the learner try the job, and correct his mistakes as he proceeds. When he has got the hang of it, let him do it again, but this time explain to him what he is doing as he goes along, stressing the key-points throughout.

When the learner has performed the operation successfully, put him on his own. But check his work; keep in touch with him; encourage questions.

If the job isn't done properly after following this procedure, the instructor is to blame.

Instruction groups should be small (usually about 10 supervisors) so that they can be handled in an atmosphere free from strain and formality.

After learning the basic method described above, two or three instructors are asked to bring their own small jobs, on which they wish to instruct, together with their ideas of the 'pattern' for presenting it. It is usually found that the procedure they have evolved is too long because, naturally, they have not enough experience to set out a simple and uncomplicated pattern. They have then to be taught or led (for an instructor need not necessarily have a profound knowledge of the job) to break down the job step by step, a 'step' being defined as something which logically advances the work. Having done

(*Continued on page 99*)

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Charles W. Eliot,
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FERRANTI

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THE EFFICIENT COOK-HOUSE

In last month's issue of this magazine we discussed the cook in relation to the canteen. The present article deals with the cook-house itself—its layout, cleanliness, equipment and other related subjects.

Air and Light: Good light is essential to good work. Since natural light is best, the cook-house should be provided with adequate windows which should be kept clean and open. The walls should also be kept clean and white so as to reflect the maximum amount of light. A separate electric light should be provided at each site of work.

As regards the ventilators and windows, they should be kept clean of cobwebs and dust. Also, they should be fly-proof and constructed to open outwards. A box-framework outside the windows will enable them to be opened whenever required. On the outside of this framework, expanded metal or gauze should be fixed to keep out rodents and other pests.

Clothing: The staff should be supplied with at least three sets of white clothing. These should always be worn at work. They should be kept scrupulously clean and changed when dirty. No clothing, whether personal or spare, should be allowed to hang or lie about the kitchen.

The staff should also be provided with a room and necessary fitments to enable them to undress, bathe and dress. A locker should be given to each domestic servant for storing his or her personal clothes and possessions.

Cloths: A sufficient number of cleaning cloths of absorbent material should be provided for washing and drying, cooking and eating utensils. Separate cloths of a different design should be kept for the handling of hot or sooty vessels. After the last meal of each day, these cloths should be boiled in soda water. Alternatively, they should be collected at the end of the day and sent to the 'dhobie'. The drying of these cloths or other clothing should not be permitted in the cook-house as it increases humidity and makes the room stuffy.

Coal: Coal should be kept in a separate store outside the kitchen. The coal boxes themselves should be covered. Only the coal actually required for the day's cooking should be kept in the kitchen, and that too it should be kept in a closed scuttle. Coal should not be broken up in the kitchen as the food is likely to be contaminated by the ensuing coal-dust.

Cockroaches: This pest lives on filth and, like the fly, contaminates food. It hides under furniture, in nooks and corners, and in the grease trap. Infestation must be prevented; the cook-house should be kept scrupulously clean; and a continual campaign must be carried on against the cockroach if food contamination is to be avoided. Painting the inside of cupboards with aluminium paint is useful in keeping cockroaches away.

Cupboards: The most convenient and economical design for cupboards is to have them fitted into recesses in the walls. In any case, they should have backs, sloping roofs and sliding glass doors. Finally, they should have adjustable shelves, while the base should be at least 6″ off the floor for purposes of sweeping.

Doors: The kitchen doors should be rendered fly-proof and arranged

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to open outwards. They should be fitted with springs so that they close automatically. A catch fitted on the inside of the doors will prevent unauthorised persons from entering the kitchen.

Draining Boards: These should be removeable and two or three inches away from the wall. This will enable them to be scrubbed frequently.

Equipment: The cook-house sinks, tables, chopping-blocks, cutting-up boards, pastry slabs, mincing machines, knives, forks, spoons, and all other equipment and utensils should be kept scrupulously clean. Food and water may become infected if either equipment or utensils are unclean. Indeed, eating and drinking utensils should be sterilised to prevent disease.

All equipment and utensils, when not in use, should be kept in the places allocated for them, and they should be available for inspection at all times. Any defect in the cooking apparatus should at once be brought to the notice of the person in charge so that it can be repaired without delay.

Flies: This pest carries excremental, intestinal, and worm diseases. It breeds in excreta, manure, and refuse. It thrives on most kinds of food, such as bread, cheese, jam, milk, and sugar. Germs are carried by the fly on its feet and in its crop; some germs also pass unaltered from a fly's intestines within certain time limits. When a fly feeds, it drops its fæces frequently, it regurgitates food from its crop, and also walls over the food, thus contaminating the latter in three ways. It is vital, therefore, to prevent flies from breeding by destroying their eggs and maggots. Swatting, tanglefoot traps, poison, and spraying are all useful in destroying the fly.

Floors: The kitchen floors should be scrubbed daily with hot water containing soda, a soap and creosote solution, or phenyl. Tiles should be scrubbed with monkey soap. Special attention should be given to nooks and corners, and recesses behind furniture.

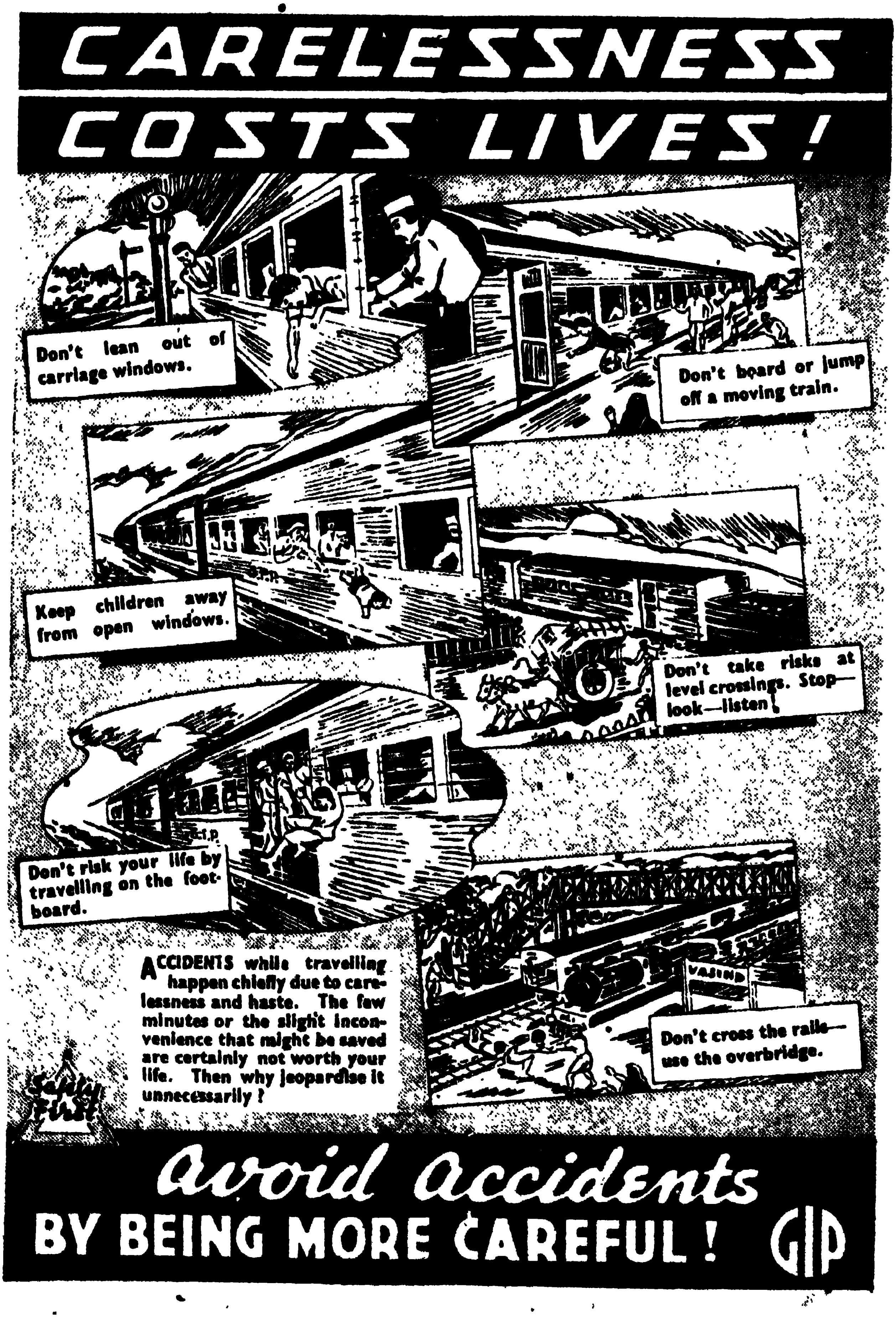
Food Safes: These should be made of seasoned wood and they should be well jointed. Wire gauze covering will prevent contamination. Food should be placed in these safes in such a way as not to touch the sides; otherwise, flies crawling on the outside will contaminate the food. The fitments—hooks, shelves, etc.—should be arranged so that they can be removed easily for cleaning. Food safes should be scrubbed daily.

Grease Trap: The grease trap should be examined periodically and the grease melted with scalding water, as otherwise it will form an ideal breeding ground for cockroaches.

Hygiene: A basin, running cold and hot water, soap, a nail brush, and clean towels should be provided in each cook-house. The staff employed in the handling of food should keep their nails trimmed, and they should wash their hands before handling food and after each visit to the toilet.

Insects, etc.: Since food attracts beetles, cockroaches, flies, mice, rats and other pests, a constant war must be waged to prevent them from entering all rooms reserved for the cooking, handling, and storage of food.

The essentials are absolute cleanliness, covering of all food with all approved covers, disposal of all peelings and waste by burning, filling up of cracks and crevices, and the efficient maintenance of the



CARELESSNESS COSTS LIVES!

Don't lean out of carriage windows.

Don't board or jump off a moving train.

Keep children away from open windows.

Don't take risks at level crossings. Stop—look—listen!

Don't risk your life by travelling on the foot-board.

Don't cross the rails—use the overbridge.

ACCIDENTS while travelling happen chiefly due to carelessness and haste. The few minutes or the slight inconvenience that might be saved are certainly not worth your life. Then why jeopardise it unnecessarily?

Avoid Accidents BY BEING MORE CAREFUL!

GIP

building and compound, the inculcation of hygienic practices in the inmates and staff, and the immediate application of control measures on the appearance of a single insect or rodent. In case of an epidemic, a most careful watch should be kept and control measures immediately introduced irrespective of whether insects are seen or not.

Pets: Most households have pets. These should be kept away from the dining room and kitchen. The inmates should wash their hands before each meal so as to avoid contamination of food through previous contact with pets. Dogs convey certain intestinal parasites, while parrots are supposed to infect men with a peculiar disease—Pscitacosis.

Refuse Bins: Bins with tightly fitting lids should be placed inside the kitchen for food scraps, peelings and other refuse which attracts both animals and insects. A very much better practice, however, is to have a refuse boiler in which all refuse can be burnt. This method has the additional value of providing the kitchen with hot water.

Scrubbing: All wooden equipment and furniture should be scrubbed after use—chopping blocks, curry stones, draining boards, pastry boards, shelves, tables, and so on. Wood should be scrubbed with soap and water, and bath brick with plenty of " elbow grease".

Shelves: These should be of the removeable type. They should be kept plain and unpainted. If they are covered with paper, they will not show off dirt. Finally, they should be wiped daily with a wet cloth and scrubbed weekly.

Sinks: The best position for a sink is a couple of inches away from the wall. This will enable it to be kept clean on all sides—top, bottom, front, and sides.

Surroundings: The compound, if any, should be kept scrupulously clean particularly of refuse. Drains should be systematically attended to, so as to keep them disinfected and in good condition. This is important in order to prevent seepage into the surrounding earth.

Flower and grass pots should be encouraged, not only from the æsthetic view-point, but because they attract birds, the enemies of insects. Creepers and overhanging vegetation should not be allowed either on buildings or balconies, as they provide shelter for insects and other pests.

Walls: The kitchen walls should always be kept in good repair. They should also be kept clean and lime-washed periodically. They should be dusted weekly. A clean, white wall not only shows up dirt but also reflects more light.

Washing up: Sinks should be provided for the washing of utensils. Adequate arrangements must also be made for washing up after meals. A plentiful supply of almost boiling water, soap, soda, and clean dish cloths should be provided for the drying of utensils.

* * *

Recipe For Mental Health For Women Workers

Take a full day's work, mix thoroughly with interest in the job, and skim off pay at regular intervals.

Add spice-of-life in off hours. Use moderate quantities of play and physical exercise, remembering to salt well with common sense. Simmer; do not boil.

Strain out worry and discontent, sprinkle with tolerance, and serve with friends at the table. Use as a staple in the diet.

A BALANCE SHEET FOR EMPLOYEES

EVERY workman is interested in the profits made by his firm and in the distribution of those profits. He seldom gets this information. His firm prints a Balance Sheet, but this is written in a financial terminology which the layman cannot understand. Moreover, the official Balance Sheet does not and cannot contain the exact information which the workman wants.

The lack of this vital information is the root of much unhealthy suspicion ; for most employees have an exaggerated idea of profits, and an equally distorted idea of the distribution of these profits. An employees' Balance Sheet, of the type we advocate here, is highly important in correcting this mistaken notion of profits and profit-sharing. Knowledge promotes friendly labour relations, just as ignorance breeds doubts, misunderstandings and labour unrest.

An employees' Balance Sheet (as illustrated below) should contain in the simplest terms, the gross income of the firm, the expenditure of the firm, the net profits available for distribution, and the actual distribution of this net profit amongst the various parties entitled to it, namely, the workers and the shareholders. A firm's finances, analysed in this way, reveal facts which, in most cases, are a revelation to even the most disgruntled employee.

The fact is that workman, taken together, get a very substantial slice of the net profits, certainly far more than what the shareholders get. The latter, it will be admitted, are entitled to a fair share since they risk their capital in starting the enterprise and maintaining it. It is equally obvious that they are entitled to get a return on their capital in excess of what they would receive either by investing their money in a bank or in Government Securities.

To further simplify an employees' Balance Sheet, one or more of the following expedients may be used.

Apart from actual figures, the net amount available to the workers and shareholders may be taken as 100 per cent. and the percentage going to each of the two parties calculated therefrom.

Another method of presenting the same facts is to chart out the distribution of profits in the form of a circular area or pie, the size of each slice varying according to the proportionate allocation of the profits.

Charles M. Schwab, the great steel magnate, followed a still simpler method. He did not bother with gross income. " Taxes, raw material costs, bad debts, light, heat, water, and all necessary running charges are a paid-out item and would have to be paid out by labour or the government if they owned the company. *Since neither workers nor the Company get any of the money, why talk about it?*"

According to this method, therefore, only the net profits available for distribution would be taken, and split up into (*a*) the percentage going to workers ; (*b*) the percentage going to shareholders ; and (*c*) the percentage left as surplus for purposes of expansion and other future needs.

Each organisation should choose the method it prefers in drawing up the suggested employees' Balance Sheet. The only pre-requisite is that the method finally adopted should indicate quite clearly to every worker all matters relating to his firm's profits and the distribution of those profits.

A Report to all the Members of our Organization

[An illustration of an Employees' Balance Sheet]

Our Income was made up as follows :	Rupees.	Per cent.
(1) We billed our Customers for the goods they purchased from us	43,97,800	
(2) Certain of our customers unfortunately failed to pay us and so these bad debts had to be deducted from item (1)	10,900	
(3) This left us a Nett Return from our sales of ..	43,86,900	
(4) In addition to the Income shown in item (1), we received dividends from other firms we have money invested in	23,000	
(5) And to this we have to add income we have received from other sources, and interest and rents amounting to	19,300	
(6) THIS GAVE US A TOTAL INCOME OF ..	44,29,200	100
In order to run our business we incurred the following Expenses :		
(7) We had to purchase materials, power, supplies, transportation, etc., from many firms in Bombay, elsewhere in India and abroad and this amounted to	20,90,400	47
(8) The buildings, the machinery, the plant, etc., which were purchased by the shareholders are gradually wearing out and will have to be replaced in due course and to meet this we have set aside a sum of (for depreciation) ..	3,84,900	9
(This sum is calculated on the basis allowable by Government for Income Tax purposes and in their opinion represents a fair allowance for wear).		
(9) In order to carry out our activities, we had to rent certain properties—the cost of this was ..	69,500	2
(10) Commission, legal expenses, audit fees, and other establishment charges such as, printing, stationery, postage, telephones, etc.	1,39,800	3
(11) We had to pay the Government and the Municipality taxes on account of our nett income, imports, licences, etc. This amounted to ..	6,68,000	15
(12) THIS LEFT FOR US (THE JOB HOLDERS) AND THE SHAREHOLDERS ..	10,76,600	24
(13) From this we (the employees) received in salaries and wages and other benefits	8,99,400	20
(14) This left for our Shareholders—the people who provided the money which has : (*a*) enabled us to go into business and (*b*) given us employment	1,77,200	4

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OFFICE HAZARDS

Modern industry is acutely accident-conscious today. But there is a widespread tendency to regard safety work exclusively in relation to industrial occupations. Accidents, however, are caused in offices also. That is why we reproduce below a list of office hazards prepared by the American Management Association :

1. Pushing and crowding at entrance doorways, on stairs, and on elevators.
2. High heels catching on stairs.
3. Fooling, running, and scuffling.
4. Walking fast around blind corners of aisles.
5. Walking into glass door panels.
6. Leaving loose objects on floors, causing people to fall, trip, or slip.
7. Leaving sharp objects on floors, chairs, and desks.
8. Leaving desk and file drawers, and safe, locker, and closet doors open.
9. Lifting loads improperly or loads that are too heavy.
10. Putting objects on shelves insecurely, or piling them too high.
11. Using chairs and boxes instead of a ladder.
12. Tipping chairs back too far.
13. Straining muscles and catching fingers when opening and closing windows.
14. Throwing objects out of windows.
15. Throwing burnt matches, cigarette and cigar butts, and broken glass, into waste baskets.
16. Throwing clips or shooting them with rubber bands.
17. Not covering the points of pins when pinning papers together.
18. Putting papers on sharp-pointed bill files.
19. Carrying pens and pencils with points exposed—in hand or pocket; carrying pens and pencils in the mouth.
20. Keeping sharp objects scattered through desk drawers.
21. Using knives, scissors, and shears without due care.
22. Cutting fingers and lips on sharp edges of paper.
23. Putting fingers close to electric fans while they are in operation.
24. Stretching electric cords across aisles.
25. Reading correspondence while walking.

* * *

TRAINING WITHIN INDUSTRY

(*Continued from page 88*)

this, the key-points have to be decided upon, that is, the points to which particular attention has to be paid because of other factors dependent on them. These are the various steps which must be shown on the "breakdown sheet" but without undue elaboration. These are then built up into a sure and dependable method for making the "unit of instruction" as the job or component is called.

If one may generalise about such a system, it could be said that the technique of it is methodical commonsense presented (rather than taught) ; for the instructor does not pose as an expert but tries to lead his group in a thoroughly practical and informal manner.

One of the initial and most difficult problems is to create the proper attitude of mind in all concerned in this method of training. But once this is achieved, the scheme should work smoothly and with excellent results. It seems to be particularly suitable, however, for the training of apprentices or novices (such as up-graded labour) tackling a job for the first time.

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THE KERB DRILL

NOTE TO TEACHERS AND PARENTS: Nine out of ten of the accidents to young children are the sequel to a sudden dart into the road. Running across the road is potentially dangerous, but the root of the trouble is the failure to stop before crossing, and to wait until it is safe to cross. It is impossible to start too early in fostering the correct habit, and it is suggested that training take the form of this drill, which can be made almost like a game.

1. At the kerb—HALT

The first word of command is the all important one. Children must be trained to stand still instinctively for a moment before they go into the roadway. Many children nowadays "look right and left" automatically, without checking their rush, and without really *noticing* whether traffic is coming.

2. Eyes RIGHT

The next word of command does not mean just an automatic turn of the head. You must say to yourself "Is there anything coming from the right"? Only when the road to the right is seen to be clear, should the "eyes left" movement be made.

3. Eyes LEFT

Repeat the above, but this time ask yourself, "Is there anything coming from the left?"

Now, in case some vehicle has approached since you looked to the right, command No. 4 says:—

4. Glance again to the RIGHT

Having now satisfied yourself that the road is clear in both directions, you should now

5. Walk (not run) quickly across, keeping a careful look-out as you cross.

There are three places where this simple road drill becomes more complicated.

1. When you have to cross from behind or in front of a vehicle standing at the edge of a pavement. The far edge of the vehicle should be regarded as the kerb and the "drill" starts from there.

2. If you cross at a refuge the drill becomes:—

1. At the kerb—HALT: 2. Eyes—RIGHT: 3. If all clear, to the refuge—QUICK MARCH: 4. At the refuge—HALT. 5. Eyes—LEFT: 6. If all clear—QUICK MARCH.

3. When you cross a one-way street after stopping at the kerb, look one way only—right or left—according to the instruction usually painted or fixed on the road. Use the pedestrian crossing if there is one.

You must be even more patient and careful to wait until there is a good break in the traffic before you attempt to cross.

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AN OFFICE-METHODS PROGRAMME

By Wm. J. Weber, Management Engineer, E. I. du Pont de Nemours & Company, Inc., Wilmington, Del.

[In view of the importance of the subject to executives, we obtained special permission from the Executive Service Bulletin to reproduce this article.— ED.]

MANY years ago the only records required to operate a business consisted of a single record ledger. This ledger was usually maintained by the owner of the business, and merely showed the amount spent for materials and expenses and the amount received for goods sold. As a business grew, it became impossible for one man to keep the records and adequately supervise operations. It therefore became necessary to hire a clerk to keep the required records, and as record-keeping increased, additional people were hired. The result was a group who correlated data in a concise form and submitted these data to management in the form of reports. These reports, and the records required to correlate the data, soon became an essential part of an industrial organization.

As a tool of management devoted to controlling, directing, and co-ordinating the activities of a business, the office is an indispensable part of industry today. It is important that this tool—the clerical function organization, or office—be properly set up if the management of a business is to function properly, for it is unfair to expect high-class workmanship when the tools provided are not effective. Consequently there is a need for the application of the engineering approach to methods improvements in the office.

The office is a service unit, and does not contribute directly to the profits of an organization; it is an operating expense unit. It is necessary to an organization and plays an important role in the success of a business. The services should be useful and necessary, and should be rendered at a minimum of expense and a maximum of effectiveness.

Many organizations place insufficient emphasis on the importance of "paper work." Sometimes the fact is overlooked that without a clerical organization the plants of today could not operate; and, further, that the office is necessary to assist management in lowering costs and controlling expenses.

Experience within our own organization has demonstrated that the maximum results from a methods programme can be obtained when the work is co-ordinated under the direction of one head. In a large organization it is seldom feasible for an individual to neglect his assigned duties in order to examine methods systematically and determine just what is necessary and what is unnecessary. Such a survey, followed by changes in routines and methods, takes time. In a smaller organization, a full-time function is not always justified, but a methods and standards engineer or an industrial engineer could be assigned to examine office methods as a definite part of his duties, or a management engineer could train an assigned person and thereafter be available for periodic consultations in order to keep the office-methods engineer continually informed of new developments in the field of office management and to advise on specific problems.

One important factor in this connection is that great care should be used in the selection of a man to co-ordinate office-methods activities

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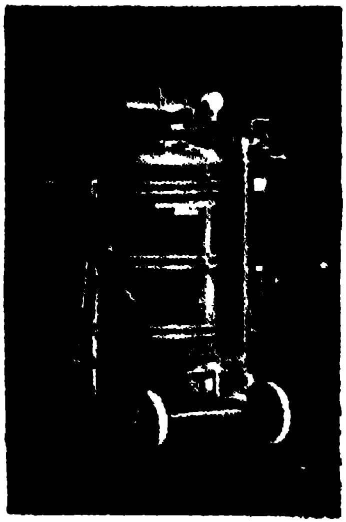

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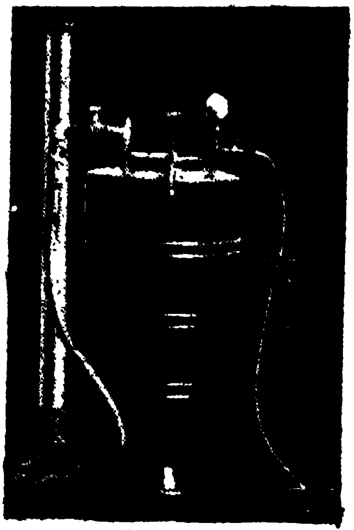

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Another major consideration is that management should formally introduce the co-ordinator to the organization and actively support his work, for without this support the maximum results cannot be attained in assisting supervisors to obtain increased effectiveness in their clerical routines.

An office-methods programme can be divided into five parts, each under the direction of, or co-ordinated by, the office-methods engineer, after which the following procedures or controls should be set up—

1. A control of forms to:
    - (*a*) Reduce the number of forms in use.
    - (*b*) Reproduce forms by the most economical method.
    - (*c*) Design better forms that will require a minimum of labour for compilation of data.

A control of reports to simplify and reduce the effort now required for the compilation of reports.

Study each clerical job to eliminate unessential work, simplify present procedures, and improve the flow of work.

Train clerical workers to do more constructive thinking about their own work.

5. Institute clerical function comparisons through the use of ratios.

Office forms are essential to any industry; therefore, the importance of a careful and intelligent control of office forms cannot be too strongly emphasized. It is important, as a first step in an office-methods programme, to set up a permanent and adequate control of forms. Constructive form studies have been made in many cases, but because of the failure to provide a permanent control the situation soon drifted back to its former state.

This control will produce economies by elimination; by merging of forms; by cutting to an economic size; by making certain changes in the set-up of printed forms, thus reducing cost; by specifying a quality of paper to fit the particular requirement of the job; by effecting economies through eliminating the use of more than one colour of ink on any one form; by using white paper whenever possible; by inventory reduction through a central control; and by group printing so that several forms can be printed simultaneously from a standard-size commercial sheet, thus effecting savings as high as 20 per cent.

In this connection, a precise control procedure must be set up on each form, at the same time keeping the necessary records to a minimum.

Better control of reports should be the next activity to be approached in a planned programme.

It is important that a centralized, co-ordinated control of reports be in effect. A survey of reports will probably show that thousands of man hours are being used to compile and type the many reports in current use. It is usually found that many of these reports contain unessential information, that information is duplicated, or that distribution of copies is being made to many individuals who no longer need the information.

An adequate reports control will:

- (*a*) Effect a reduction in the number of reports being compiled.
- (*b*) Reduce the number of copies being distributed.
- (*c*) Reduce the frequency of issuance.
- (*d*) Combine similar reports.
- (*e*) Eliminate information no longer required.
- (*f*) Make available many man-hours now used to compile reports not absolutely essential.

Management should request that one copy of each report be routed to

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the office-methods group. Each copy should show frequency of issuance, number of copies made, and the distribution of those copies. With that information, the need and actual use of reports can be determined and the findings checked by questionnaires addressed to recipients of reports.

Forms control and reports control are important in themselves, but the greatest economies and improvements in the clerical function in industry can be made through detailed job or position studies. These studies will result in :—

(*a*) Eliminating duplication of effort.

(*b*) Minimizing peak periods.

(*c*) Reallocating duties for the most effective utilization of man power.

(*d*) Reducing the rehandling of papers.

(*e*) Furnishing supervision with a detailed description of each job.

(*f*) Suggestions for better layout of the office.

(*g*) Increasing morale of employees by soliciting suggestions and making appropriate acknowledgment of their acceptance.

To obtain the maximum results in this portion of the programme several points which should be stressed continually are :—

(*a*) A letter should be issued by management to the effect that the person delegated to do the work is being assigned to work in the office. This letter should state that supervisors, and others are to feel free to contact the office-methods engineer to help in simplifying the clerical procedures.

(*b*) Management should decide where the office-methods engineer is to start the study work. This first study should not be forced on a supervisor, but the advantages of such work should be outlined and sold to him.

(*c*) The office-methods engineer must at all times work very closely with the supervisor of the department being studied, thus making the supervisor an integral part of the work.

(*d*) In any discussions or reports, the office-methods engineer should at all times give credit to anyone suggesting worthy changes.

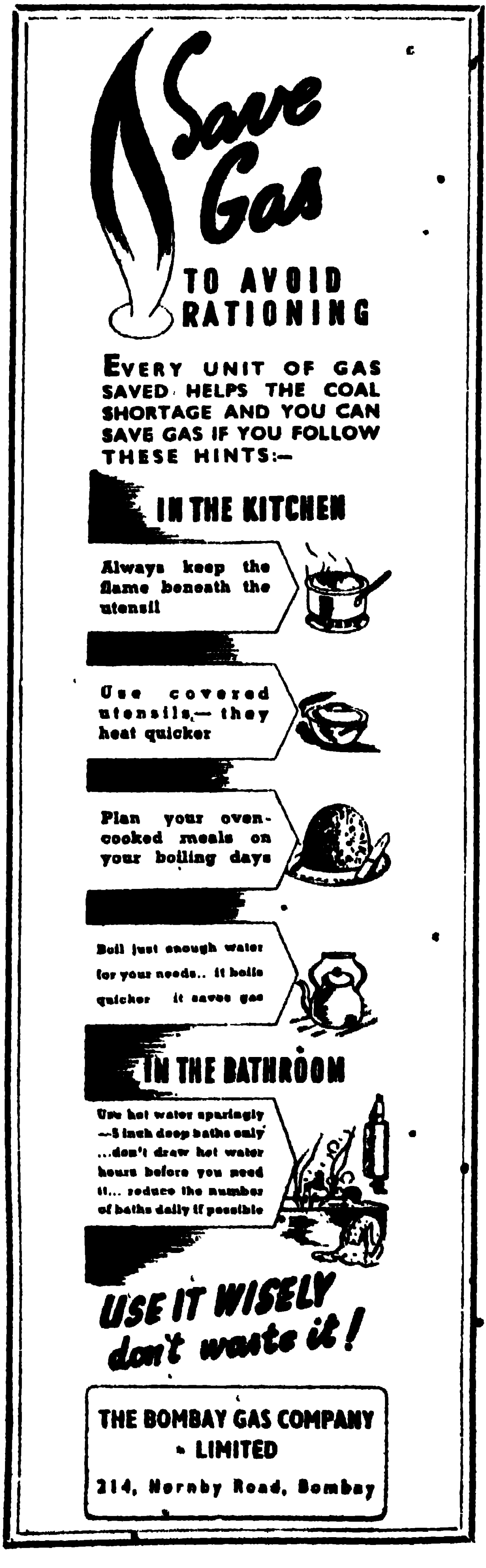
(*e*) Before a recommendation is offered, all details of an operation must be obtained, thoroughly analysed, and reviewed with those interested. People in general resent changes in any established procedure, and it is necessary to do more or less selling of the merits of any change in order to lay proper groundwork.

(*f*) Two reports should be issued to show adequately the progress being made.

1. A monthly progress report for management outlining what has been accomplished during the month.
2. A more detailed report, outlining recommendations and present duties when the study of a group or department is completed. A copy should be given to the department supervisor.

(*g*) The workplace of the office-methods engineer should be located where there is a minimum of distracting influences.

In an office survey the question usually arises: "How much time-study work should be done?" Our simplification and improvement work in the office to date has been accomplished with few or no actual time studies being made. It must be kept in mind that in office work there are many variables, such as number of days in a month, holidays, vacations, sickness, or seasonal fluctuations of volume When all these variables are considered in relation to the nature of the work, there is little practical value in using detailed time studies. Generally, an estimate of the time required for a specific task will serve all purposes.



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Another important subject in an office is a training programme, not intended to train personnel to perform specific tasks, but rather to stimulate constructive thinking on the part of the individual.

When beginning group or desk studies, the clerical force should be divided into groups of 10 to 15 people, and the programme must be tailor-made to meet varying conditions. Each session usually consists of a talk by the trainer, a discussion period, and a review of any assignments given at previous meetings. The objectives are to:

(*a*) Familiarize the clerical personnel with the functions of each department.

(*b*) Direct thinking along constructive lines.

(*c*) Make the office personnel more "job conscious."

(*d*) Standardize office methods and procedures where possible.

(*e*) Assist in developing and securing the maximum effectiveness of personnel, machines, and materials.

(*f*) Encourage the submission of ideas and suggestions on office improvements and methods.

(*g*) Prepare for the future upgrading of office personnel.

The programme should consist of 12 to 15 meetings, each running about 1½ hours. A reference manual covering the subjects listed above should be presented by the direct supervisor to each employee who attended the meetings.

To assist office managers in controlling clerical organizations, a ratio measurement should be used. One method is to base the ratio on the number of clerical-function employees to the balance of the total plant roll. At present, these ratios are being used by several of our plants to indicate where clerical study effort can be best directed to obtain the maximum results. These general ratios should be supplemented by individual group ratios, the personnel being compared with the actual measurable output of that particular group.

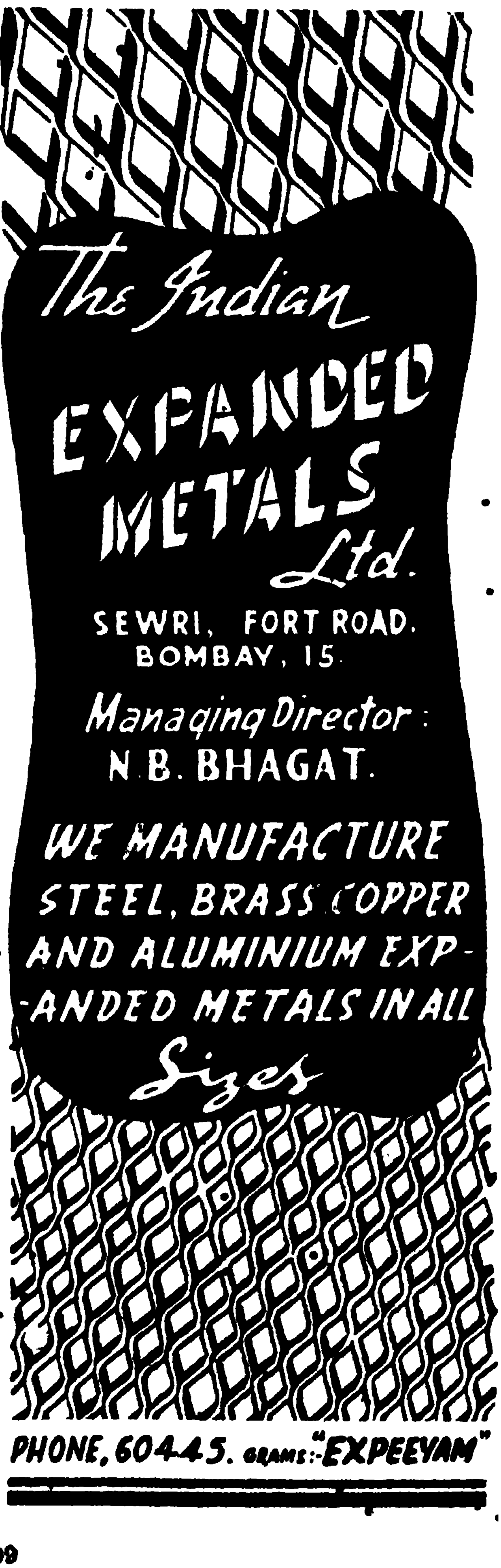
It should be noted, too, that *charts* could well be used to a greater extent to improve the control of office and production activities. Office managers and accountants invariably use tables of figures to show results, even though a chart will indicate trends and progress in a more simplified form.

Two other activities should be mentioned : the first, an organization study to assign definite functional responsibilities ; and the second, a position-rating study to establish correct relationship between jobs

The establishment of office-methods work in any organization on a planned, permanent basis will give adequate control of forms, reports, and clerical functional activities. These controls will result in a more effective clerical-function group.

To insure an effective programme, the following summarized points should be considered :

1. **Management must be extremely sympathetic and give its active support.**
2. **Personnel doing the methods work must be the best obtainable.**
3. **Forms and reports must be controlled.**
4. **Methods activities must be co-ordinated.**
5. **Experience of others should be used.**



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SAFETY IN THE USE OF POWER PRESSES

Power presses, devoid of adequate guards, present an accident hazard which contributes substantially to the number of accidents in workshops and factories. That is why we reproduce below an extract on this subject from an Annual Report of the Chief Inspector of Factories, England—EDITOR.

AN analysis of the accidents on Power Presses brings out the depressing fact that 218 occurred in one year on press tools that were *not fitted with any guards* whatever. This is a retrograde step compared with the pre-war years ; it is largely due to the fact that presses are still coming into use for production that is vital to the war effort and are put to work before a suitable guard is provided. Inspectors are waging a constant fight against this lag and we can now say that both management and the departments interested are more helpful both as regards the labour and material necessary for the production of appropriate guards.

As regards the long technical fight between the advantages of fixed, automatic, or interlocked guards, I think it is now an accepted practice that a fixed guard must be used wherever practicable ; and progress that can be made in the direction of making this practicable is illustrated by the experience of one firm. In this case, a Safety Engineer with high technical qualifications and with the full weight of his Directorate behind him set up a democratically appointed Safety Committee for the press shops, the aim being to operate all press tools on medium presses either with fixed guards or with equivalent protection secured in the design of the tools. By means of a colour scheme, existing tools were classified into types according to whether they were safe to use or dangerous. The latter class were then converted so as to be safe to use, with the eventual result that 98·5 per cent. of the jobs are now run with fixed guards and over a period of 3 years there has been no accident.

It is a common assertion that efficient fixed guards mean loss in production ; in the case quoted above, where the method of feeding is largely by tongs, it is the considered opinion of the production side that, once operators have become used to the new methods, the loss of production is negligible. Such loss as occurs in particular cases is accepted as being worthwhile in the interests of safety.

Further technical progress has been made in the perfecting of interlocked guarding and I feel that the initial troubles are being overcome. In fact we have now reached a stage when advances are possible that will produce a series of guards which, with proper maintenance and attention, will altogether eliminate these very serious accidents.

Strains and Sprains

Confusion often exists as to the difference between strains and sprains ; the two words are used interchangeably.

A *strain* is the overstretching of a muscle or a tendon of a muscle, while *sprains* are injuries due to the stretching or tearing of the ligaments or other tissues around a joint.

Remember—strains involve muscles and tendons, while sprains involve joints. That information is necessary in recognizing the two injuries and important in first aid.—*Safety News.*

THE FUNDAMENTALS OF MANAGEMENT

By Paul Mooney

THE most important part of an Executive's job is to solve problems. This applies whether the Executive works in Finance, Management, Production or Selling—*solving problems is a common denominator which runs through all executive work.*

Let us now consider what an executive needs to know, and to know how to do, in order to solve problems.

(1) Before any one can solve a problem of any kind, he needs to have a clear knowledge of the cause or causes of that problem, and the only way to get at this is through analysis.

(2) Having determined the cause or causes of a problem, the next question that faces the executive is what can be done to effectively eliminate these causes. This question involves two things: determining what to do; and deciding when, how, and by whom it is going to be done. So planning is a second fundamental of management in which the executive should be expert.

(3) The fact that Management has carefully planned all the work which must be done to realise a particular objective does not insure that everyone involved will promptly pitch in and do a first class job. How effectively the plans are carried out depends to a great extent on how well the subordinates understand and how thoroughly they believe in those plans. An executive therefore must be able to motivate if not inspire his subordinates.

(4) The fact that the general run of people are lazy, reluctant to change existing habits, and hostile to new ideas, makes it perfectly clear that even though you do the best job in the world of selling an idea or objective, you must follow through promptly and consistently if you hope to get that objective realised.

In view of the major contribution it makes to results, follow-through certainly rates as a fundamental of management.

(5) One of the gravest weaknesses of executives in general is the poor job they do of developing their subordinates. Management has a lot to learn when it comes to developing competent subordinates. A knowledge of how to develop subordinates is, therefore, another fundamental of management in which every executive should be skilled.

Doubtless there are other fundamentals of management, but if present executives were reasonably proficient on just these five we certainly would have vastly improved organizations. The sooner we begin to train our executives in the essentials of their job—the fundamentals of management—the quicker will our performance and efficiency improve.—Condensed from *Advanced Management.*

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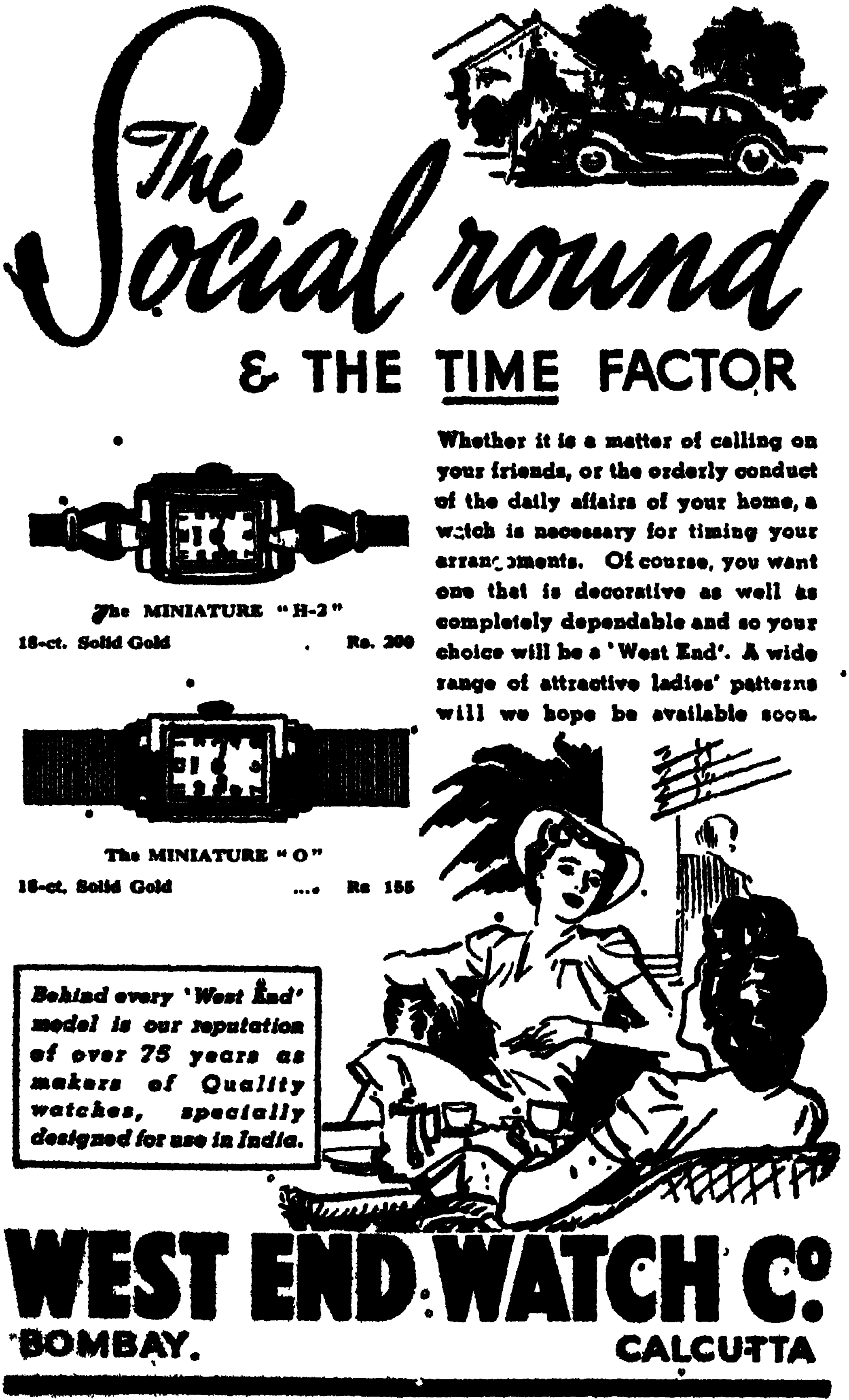

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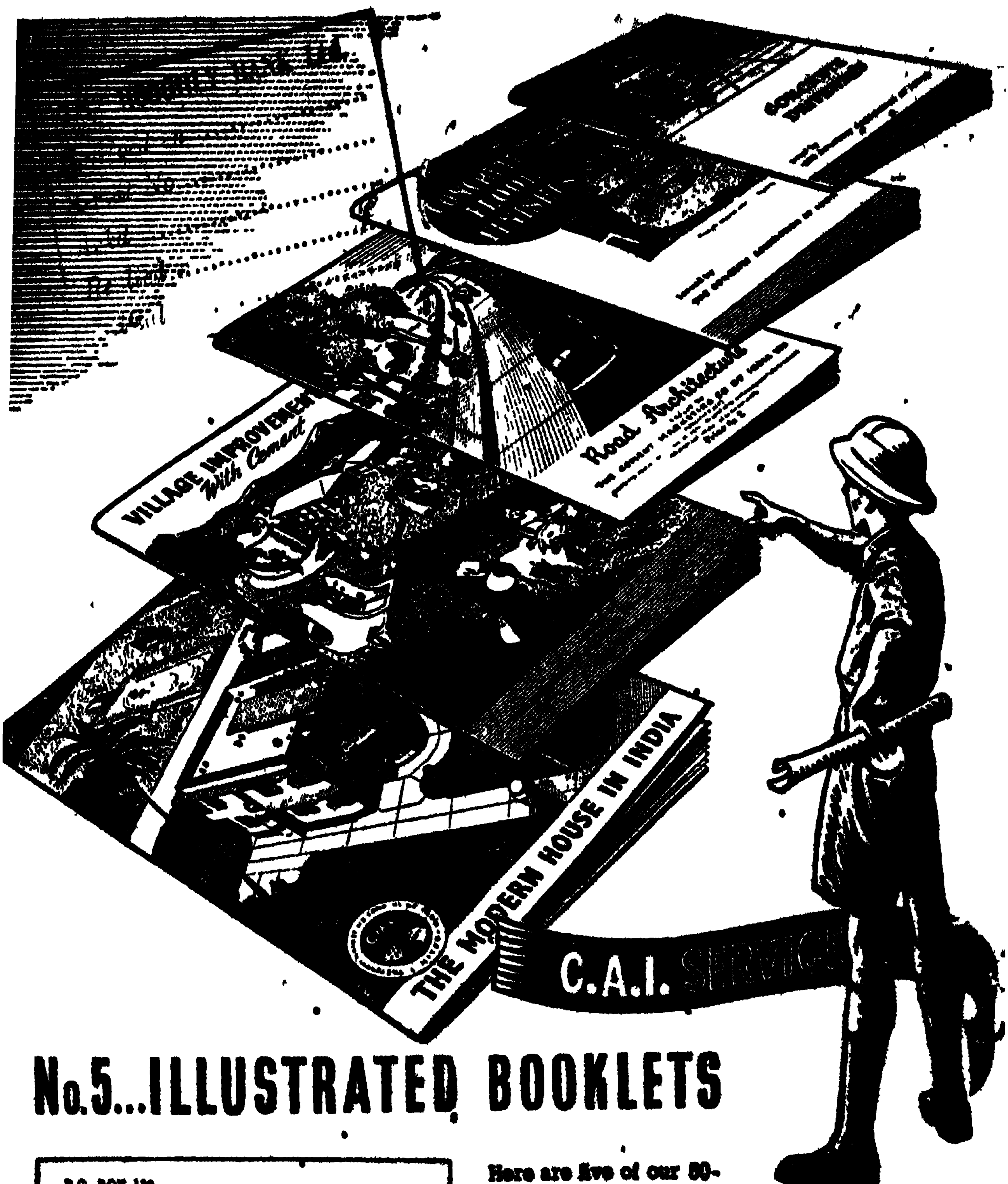

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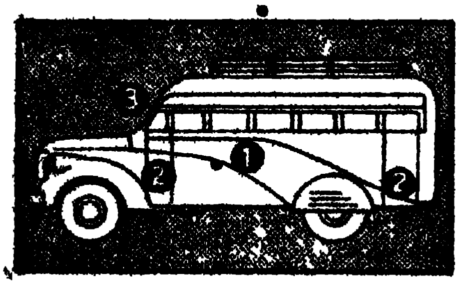

① A wide choice of two-colour finishes is offered.

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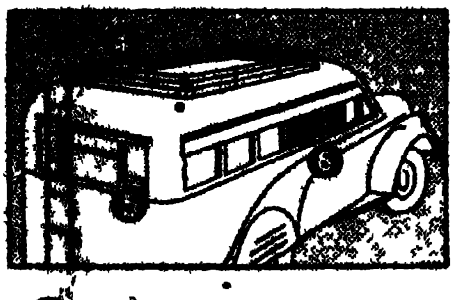
③ A special air duct is provided in roof to ensure good circulation of air within.



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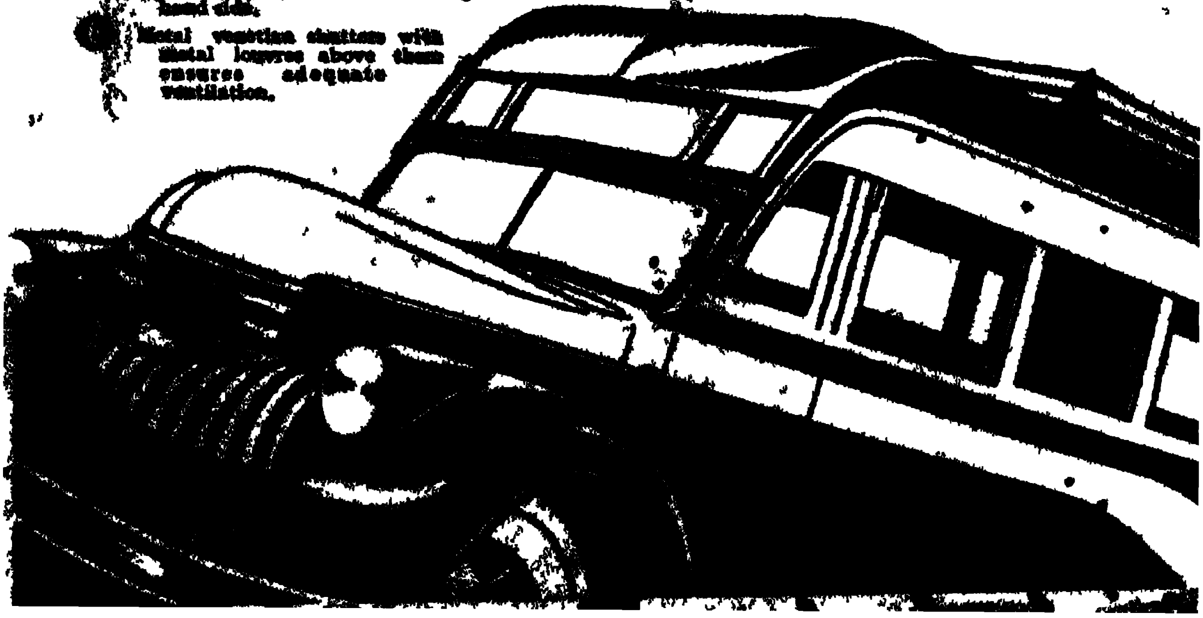

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EFFICIENCY NEWS

Vol. XIII. No. 4 APRIL 1946

"CLEAN-UP WEEKS"

IN brooding over the destruction and desolation wrought by the war, we must not overlook the legacies which it has left us.

Prior to the war, we were inclined to be recklessly wasteful of our resources. Indeed, the junk heaps which abounded in our homes, streets, and workshops were more than wasteful; they were dangerous and unsightly as well. With the outbreak of war, we became scrap-conscious as never before, and salvaged a colossal amount of hitherto discarded material for vital war purposes. This salvage of scrap had the incidental but very desirable effect of reducing the accumulation of junk in our homes and places of work. This spirit of economy and cleanliness we must continue to cultivate in the days of peace as well.

The National Fire Protection Association, Boston, Mass., issued a pamphlet last year entitled *Clean-Up Campaign*—1945, containing a plan for a nation-wide clean-up with a view to helping the war effort. The war is now fortunately over, but the campaign detailed in the N.F.P.A. pamphlet is one which could be carried out with profit, war or no war.

There are several worthwhile benefits to be derived from a regular clean-up programme. It ensures safety to begin with, since junk heaps constitute a first-class fire hazard. It prevents the waste of so-called "rubbish" by putting it to use. It contributes to the general cleanliness of the home, street, office, and factory, thus enhancing the morale of the entire community. It also ensures better public health by obviating insanitary conditions. Above all, cleanliness and orderliness are fundamental factors in enhancing efficiency.

For all these reasons, we urge the institution of a "Clean-Up Week" in every town in India *at least* twice a year. The organising of these Weeks could be undertaken by the Health Departments of our Municipalities. The clean-up process should not be limited to the removal of rubbish and scrap only. Repairing, painting, planting, and beautification should be encouraged as continuing duties in the community.

But the success of such campaigns must clearly depend upon the co-operation of individual members of the community. To secure this co-operation in full measure, planned publicity is essential. As the N. F. P. A. pamphlet stresses: "Newspapers should carry effective announcements of the campaign well in advance of its opening date. Publishing of pictures of 'before' and 'after' conditions in yards, streets and vacant plots has an unusual appeal and arouses great popular interest. Announcement of the campaign and the results to be *accomplished should be made in* schools, in churches, and at all public meetings. Posters should be made use of extensively, their messages pointed toward both adults and children. Most radio stations will be glad to co-operate in the campaign, provided programme material is made available for the purpose."

It may be felt by some that cleanliness and orderliness are small virtues. In that case we would stress that nothing could be further from the truth. A clean community *will have fewer fires, and certainly less disastrous ones, than a community* that " dumps " its rubbish and scrap indiscriminately. Public health will definitely be better in a city of clean streets, homes, and places of work. Epidemics will be less of a catastrophe. The morale of the community will be heightened by the civic pride accruing from clean, bright surroundings. Last but far from least, the salvage of scrap will enrich the community which insists on cleanliness and orderliness in its daily activities and environment.

Why Conduct a Clean-up Campaign?

PERSONAL REASONS:

1. Because the home has a healthier atmosphere after a thorough renovation with new paper and paint.
2. Because a greater pride in the house causes an interest in the general condition and beauty of the yard, garage and other buildings.
3. Because flowers, trees and green grass are more wholesome than bare spots and weeds.
4. Because the removal of rubbish from the home, garage and yard is protection against fire and disease.
5. Because it increases the value of real estate.

MUNICIPAL REASONS:

1. Because streets and alleys when repaired and kept clean are more inviting, and accident frequency is also lessened.
2. Because it is a campaign in the interest of general welfare.
3. Because a clean, beautiful city is its own best advertisement.
4. Because visitors will stay longer and spend more money in attractive cities.

INDUSTRIAL REASONS:

1. Because every employee is more interested and contented working in a plant where the yard is beautiful and the interior is clean, bright and fresh.
2. Because any example set at the plant is likely to be copied at home.
3. Because there is little to criticise in safe, healthful and beautiful surroundings. Dark workrooms and dirt provoke bad temper and inefficiency.

EDUCATIONAL REASONS:

1. Because the child's interest is broad, his clean-up campaign activities will include not only his home and school, but also parks, playgrounds and other places of summer recreation.
2. Because the city of tomorrow will be formed in the minds of today's children.

CAR PARKS AND TRAFFIC EFFICIENCY

VEHICLES parked on busy highways and in congested districts are a serious hindrance to efficient transport and a fruitful source of accidents. This was a point which received emphasis at the hands of the Communications Panel appointed by the Bombay Government in connection with the Greater Bombay Scheme. It is interesting to see how this vital problem is being tackled elsewhere.

The Ministry of Transport in Great Britain, for instance, is giving very serious consideration to the problem of car parks. "Car Parks Off the Streets!" appears to be the slogan of a nation-wide drive to provide adequate and safe car parks for the future. Local authorities throughout Britain have been ordered by the Government to speed up their efforts in this direction. The necessary powers have been delegated; but those who lag behind will be compelled to get ahead through legislation.

The scheme for permanent car parks and the clearing of busy streets is described in the 1944 Interim Report of the Government Road Safety Advisory Committee, Here is a summary of the Committee's recommendations.

Temporary Measures

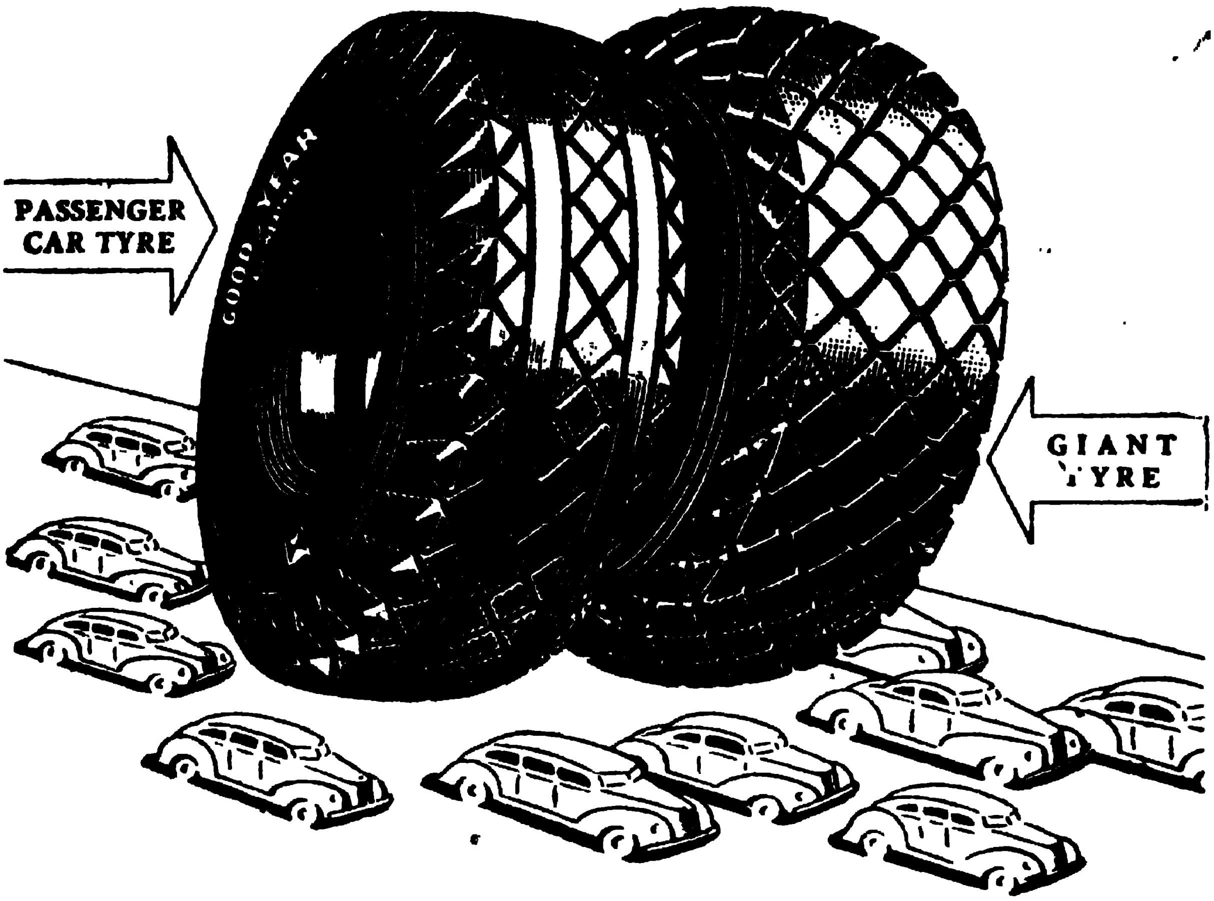
1. Squares and little-frequented highways to continue to be used as official parking places.
2. Bombed sites and other waste ground to be used as pressure increases.
3. *Plans for reconstruction of large buildings and places of public resort not to be passed without provision for parking.*

Permanent Policies

1. Prohibition of parking in built-up areas where volume of traffic exceeds 300 vehicles an hour per traffic lane at peak period (traffic lane 10 or 11 feet wide).
2. Prohibition of parking on all roads where, even if the rate of 300 vehicles per hour is not reached, standing vehicles *are likely to cause danger to road users* and congestion to traffic.
3. Approved taxi ranks should be excepted.
4. If local authorities take no action on the above lines within 3 months of receiving notice from the Minister of Transport, the Minister to make orders under Section 46 of the 1930 Act, prohibiting parking.
5. Public service vehicles not to be exempted from the general principle of no parking in busy streets.
6. Local authorities to provide adequate parking grounds within central areas, underground or at street level.
7. The function to provide parking spaces off the highway, where justified by traffic conditions, to be mandatory.
8. Charges should be low enough to encourage full use. Minister to have power to control such charges. Any financial loss on one parking space should be offset against profits on others. A grant from the Road Fund should be available to adjust matters where necessary.
9. If garages propose to close down, they might be adopted as official parking spaces.
10. Adequate parking space for bicycles, including racks and weather protection
11. Many small parks, well distributed, are better than a few large ones. Obligatory for all cinemas, churches, restaurants, etc., to have parking places and loading bays. Bays to be made in roads used as bus routes.
12. In London, in some cases, the space problem could be solved by providing parking spaces some distance from the centre of the City.

It will be seen from the above, that though these proposals have been formulated for Great Britain, they are capable of being adopted with equal effectiveness in any other country. The problem of road congestion caused by indiscriminate parking is a universal one, and its solution calls for a comprehensive and vigorous plan for which the recommendations which we have just summarised would serve as a useful model.

A Preference without Precedent



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JUVENILE-EMPLOYMENT SERVICE

IT is widely recognised today that one of the fundamental aims of education should be to help boys and girls to choose the right career or job where they can find scope for their abilities and the satisfaction which comes from activity in the right field. The British Ministry of Education and Labour has been developing this idea progressively from 1909 onwards.

Late in 1944, the then Ministry of Labour and National Service referred this question to a representative committee under the chairmanship of Sir Godfrey H. Ince, K.B.E., C.B., of the Ministry of Labour and National Service, with the following terms of reference: "To consider the measures necessary to establish a comprehensive Juvenile-Employment Service."

The Ince Committee recently submitted their final report which was later discussed at a meeting of educational institutions and at which your correspondent was privileged to attend.

The findings of the Ince Committee serve as a useful guide to the selection of careers. The main recommendation of the Committee is that "vocational guidance should be given before leaving school and that every school should be required by statute to register with the Service every school leaver, and the Service should be empowered to require the attendance for interview of any person so registered."

To enable the Juvenile-Employment Officer to give vocational guidance, the Committee consider that a proper record of each child should be kept throughout his or her school life.

The Committee recommend that the school report should cover the following data :—

1. *Physical Qualities :* General health, physique, and disabilities, if any.

2. *Intelligence :* i e., Capacity for learning.

3. *Educational Attainment :*
    - *a*) Type of course followed stating also-
        - *i.* good subjects
        - *ii.* average subjects
        - *iii.* poor subjects.

    All subjects including manual/domestic training should be classified this way.
    - *b*) Certificates gained.

4. *Any Special aptitudes :* e g., Verbal fluency, mechanical dexterity, drawing, music, figure proficiency.

5. *Interests :* As shown by intellectual, practical, aesthetic, social and physical activities.

6. *Qualities of Disposition* Degree of self-reliance, friendliness, application, conscientiousness, initiative or reliability.

7. *Voluntary Organisation* (s) of which the subject is a member.

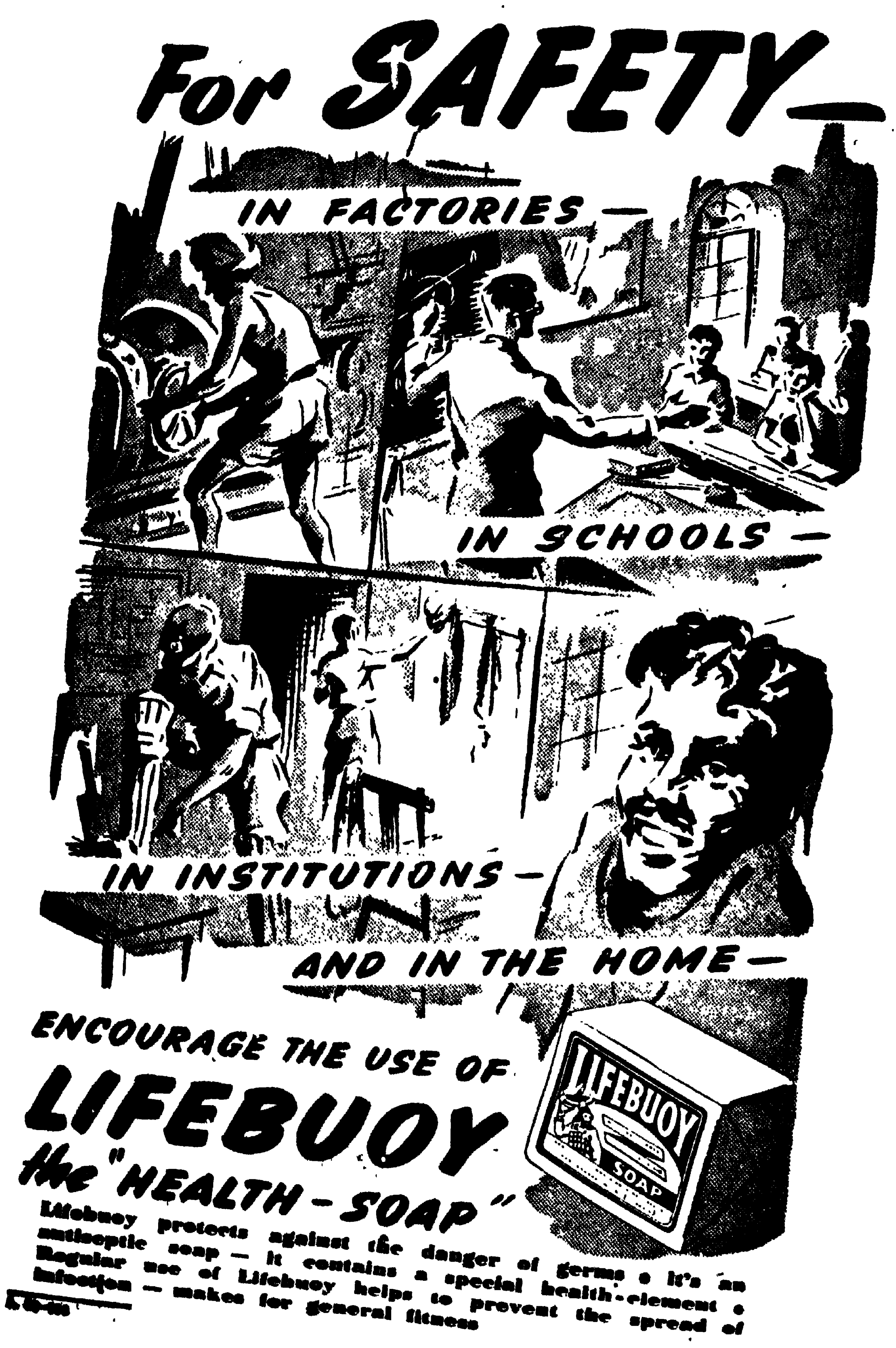
8. *Any Special Home Circumstances.*

9. *Any Special Features of School Attendance.*

If this recommendation is accepted it will be essential for teachers to give an estimate of every child at the end of his school career on these lines.

As exponents of the art of efficiency, we fully subscribe to this recommendation because we know that it will result in improved production and individual job satisfaction which should be the basic aim of an industrialised India.

• The Safety First Association of India has been trying to interest two Bombay schools along these lines and with the impetus given by the Ince Report, we feel it won't be long before we can give a detailed memorandum on the subject of the School Report as it should be drawn up.



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In order to prepare the child's mind for the change from school to work, the Committee considered how students should be helped to think seriously on the question of their careers. The Committee considers that the dissemination of information about industry and the professions should be part of the normal teaching of a school; but this should be regarded as general knowledge and as an element in training for citizenship, educationally valuable to any boy or girl. It should not normally at this stage be linked specifically with the idea of choosing a career. This instruction is made more useful with the aid of films and by taking groups of children to see industrial plants, firms and exhibitions.

Against this background, the Committee stresses the value of school talks with the warning that care should be taken to keep the mind open so as to arouse a general interest in the question of a career and to lead students to examine their own capabilities and desires; and also, so far as it is possible at this stage, to give them a broad and balanced picture of the different kinds of careers that lie open to them.

In order to give preliminary information, the Committee recommends that the Mnistry of Labour, in association with the Education Departments, should prepare and distribute pamphlets about careers.

With this by way of preparation, the most important event in the process of vocational guidance is the school-leaver's interview. The Committee regard this as the focal point and they consider that the most careful attention should be given to its significance, to the opportunity which it presents, and, therefore, to the way in which it is conducted.

This interview is the culmination of a process of accumulation of all available information about the student, and in the light of that information the juvenile is given advice by the vocational adviser as to careers which appear to be suitable for each to follow.

Having performed the first and fundamental duty of giving vocational guidance to the boy or girl, the Juvenile-Employment Service's next step is to place the juvenile in employment. The three main principles to be achieved in placement are: —

1. To fit them into the right jobs according to their qualifications, aptitudes and interests;
2. To divert them from jobs harmful to their health or character or those leading to no suitable career; and
3. To ensure so far as possible that the limited supply of juveniles is distributed in accordance with national needs.

Nevertheless, however efficient the Service may be, there will always be a number of boys and girls whose first choice of a career will not turn out to be in the right direction and in such cases there will be the question of replacing these misfits.

The Committee consider that the Juvenile-Employment Officer has the special function of seeing that all is done to help the juvenile to progress towards a stable career. If he finds that certain juveniles are in non-progressive or demoralizing work, he should do all in his power to try to get them into more satisfactory occupations. This means that he should be in as close a touch as possible with the young workers in his locality or district. The Committee do not suggest that juveniles should be harassed by excessive attention or a repetition of interviews at short intervals, but they think that there should be a periodic follow-up, and an encouragement to come to the Juvenile-

(Continued on page 132)

"**ELECTRICITY**—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

Charles W. Eliot,
(Late President of Harvard University.)

FERRANTI

a name that has been associated with the triumphs of electricity during the past sixty years.

BEAVERBROOK'S DRASTIC EFFICIENCY

IT has been truly said that the Battle of Britain was won by the Royal Air Force; but the Royal Air Force would not have had a fighting chance save for the activities of one man—Lord Beaverbrook. As David Farrer relates in his book *Beaverbrook A Difficult Fellow*, Lord Beaverbrook took over the Ministry of Aircraft Production at a time when everything seemed lost or on the verge of being lost. Starting work under grave handicaps which had accumulated during the previous 20 years, Lord Beaverbrook by his drastic efficiency saved the nation from the gravest peril in her history.

David Farrer does not slur over the weaknesses and shortcomings of his subject: "He was tempestuous, overbearing, unpredictable, sometimes hasty in judgment, often intolerant in Committee." He naturally caused bitter opposition on the part of those who worked along orthodox lines; but this could not be helped, for "the task he was set could not have been accomplished in any other way.... It is beyond contradiction that failure of a 'Difficult Fellow' at that time would have spelled disaster for the whole cause of freedom." David Farrer's book is summarized below with a view to indicating the bases of Beaverbrook's efficiency.

Action: All work was done at high pressure. Mistakes might be forgiven, but inaction was unpardonable.

A short time (perhaps five minutes) after he had given his lieutenants a fresh instruction, Beaverbrook would telephone them to enquire whether it had been carried out.

Beaverbrook had little time for the written minute; he worked by personal interview.

When vital aircraft stood immobilised for lack of instruments, he created Action Squads who "pirated" every surplus spare and instrument they could find.

Appreciation: Beaverbrook was quick to praise and thank those responsible for good work: "First rate, first rate, I'm very much obliged to you," spurred his men to still further efforts. Gratitude and encouragement were frequently expressed either by personal contact, by telephone, or by telegram. The workers were at first startled and then excited to read not impersonal instructions from some uncomprehended department but telegrams signed "Beaverbrook" exhorting them, thanking them, and urging them on.

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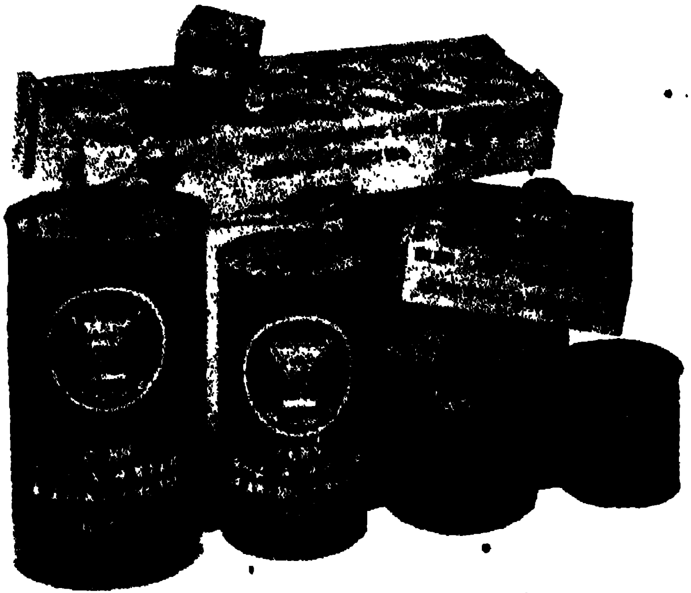

LIQUID LUBRICANTS ARE TO BE PREFERRED TO SOLIDS AND SEMI-SOLIDS. BUT THERE ARE MANY INSTANCES WHERE IT IS NOT POSSIBLE TO LUBRICATE WITH OIL. THEN IT BECOMES NECESSARY TO USE A GREASE.

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Bottle-necks: In the newspaper world, Beaverbrook had driven ahead with vast projects—ignoring limiting factors which might have caused others to hesitate. And he brought the same aggressive spirit to bear on his new job.

He was a devotee of bottle-necks; they stimulated him; he detailed one man to tackle them. He regarded a bottle-neck not as a hindrance but as a tonic. Its existence was not a tragedy to be lamented but a spur to further endeavour.

Committees: When Beaverbrook took over the Ministry of Aircraft Production, he swept away the numerous committees that existed. Interminable inter-departmental discussions were abolished and one man with a picked staff was given the whole job. He worked by direct contact with single individuals.

Complaints and Suggestions: Beaverbrook practised the open-door policy. He was accessible to complaints and suggestions. He gave interviews to any one likely to be helpful.

Concentration: The job of the moment was everything. He concentrated on the production of the five types of combat aircraft that were most urgently needed for the Battle of Britain. All the resources that he could command were concentrated on this job.

Development: Beaverbrook relied mainly on the aircraft industry for development and improvement. The achievements of the Ministry of Aircraft Production depended largely on intimate collaboration. A constant problem in aircraft production is the reluctance of designers and experts to finalise their plans. While the Battle of Britain was on, this tendency to seek improvements meant the risk of prolonged delays. Beaverbrook met this by giving written orders that plans should be at once finalised as they stood, and that he would hold the factory managers responsible for seeing that no further modifications whatever were undertaken.

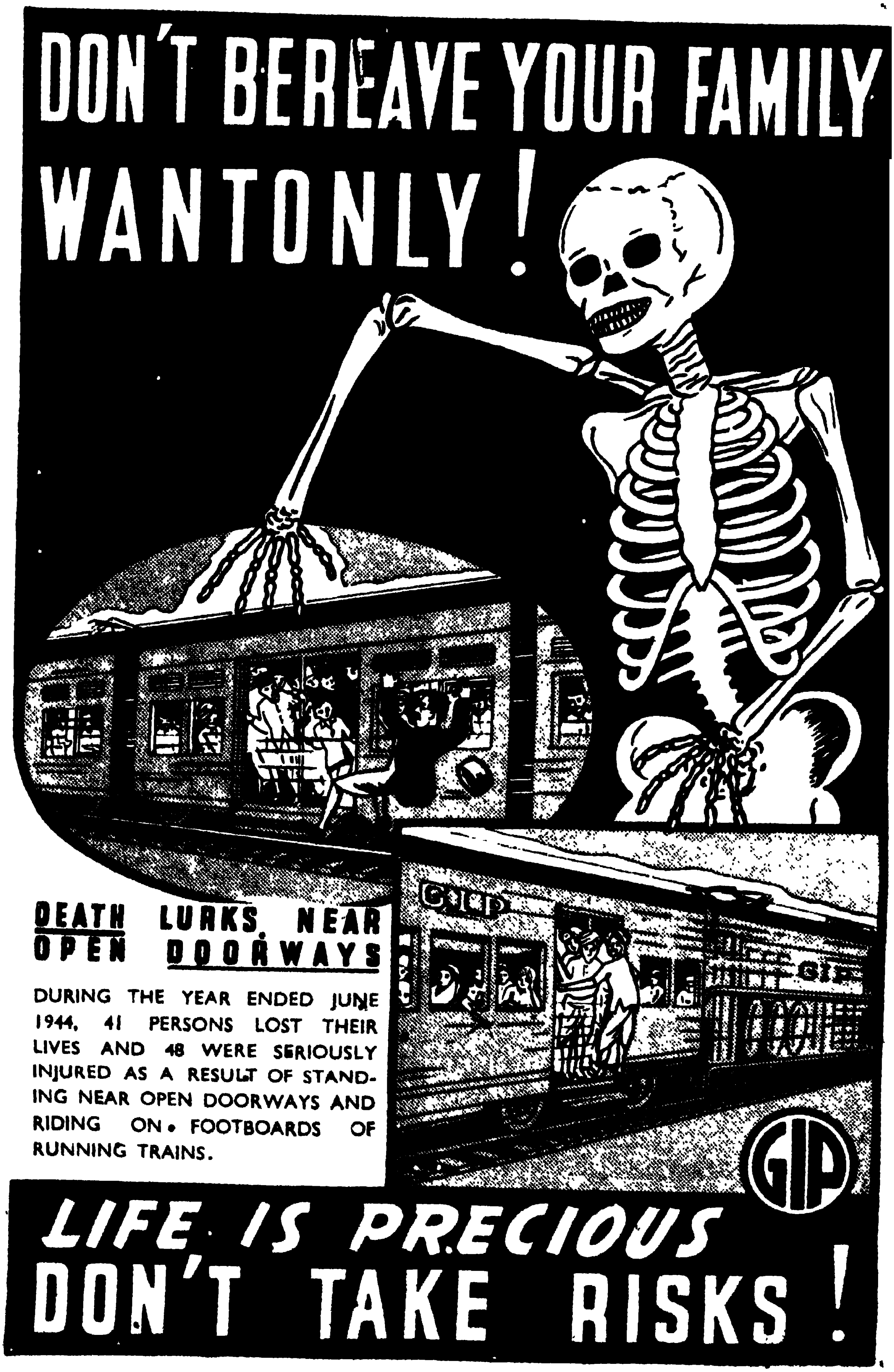
Difficulties: Beaverbrook would visit every centre where a crisis or a difficulty had arisen. Every difficulty was to him a stimulus and a challenge. Referring to this aspect of Beaverbrook's character, Mr. Churchill has observed that "*Lord Beaverbrook is at his very best when things are at their very worst.*"

Instructions: Beaverbrook gave his lieutenants the general lines on which to work. Beyond that, there was no further interference from above. He only asked for results.

Methods: In awakening the aircraft industry and associated manufacturers into activity, Beaverbrook employed varying methods, ringing the changes on re-organisation, on bullying and on persuasion.

Motivation: Those who worked with Beaverbrook were inspired to high endeavour by his methods, his drive, his energy, and his power to act alone. He urged his colleagues on through ceaseless personal contact, propaganda, and publicity. When necessary, he did not hesitate to be a bully: the need of the moment dictated the policy. He imbued all his colleagues and subordinates with the spirit of "It all depends on me."

Objectives: Costs did not matter, systems did not matter, nothing mattered—except the number of Spitfires that could be put into the air within the next six weeks. Every other consideration was subordinated to this vital goal. Side by side with production was pursued



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DEATH LURKS NEAR OPEN DOORWAYS

DURING THE YEAR ENDED JUNE 1944, 41 PERSONS LOST THEIR LIVES AND 48 WERE SERIOUSLY INJURED AS A RESULT OF STANDING NEAR OPEN DOORWAYS AND RIDING ON FOOTBOARDS OF RUNNING TRAINS.

LIFE IS PRECIOUS

DON'T TAKE RISKS !

the work of development. Beaverbrook regarded improvement as most important. The work of design and development was relentlessly pushed forward to more than match and beat the progress of the enemy.

Performance: Beaverbrook loved to talk to airmen who piloted his aircraft. In this way, he gained valuable information about performance. First hand information on the behaviour, strong points, and weaknesses of his aircraft led to rapid improvements.

Progress: Late each night he received by telephone reports from each factory on the day's output, shortages, and any other relevant information. He consulted the works managers over the telephone or in person about the progress of their particular jobs: How are you getting on? Tell me your troubles! Do you want anything? Ceaseless prodding and questioning saved valuable time and created a feeling of the utmost urgency. The reactions were always startling and spirited. His men reacted vigorously, spreading the spirit of high endeavour.

Whenever modifications were being undertaken, he put in expeditors--special groups of skilled workers.

Propaganda and Publicity: Beaverbrook made Propaganda and Publicity his allies in the fullest sense. He used papers, platforms, posters, pictures, and every other vehicle of publicity. The purpose of this propaganda was to make each individual in the Air Ministry and on the production line feel that everything depended on his or her individual efforts.

Repairs: The problem of repairing damaged aircraft was met by "cannibalising"—some damaged aircraft were stripped of their serviceable parts to make other damaged aircraft fit for service.

Whatever animosity Beaverbrook may have aroused by his unorthodoxy, it is universally admitted today that to him goes first credit for Victory in the Battle of Britain. In his twelve months at the Ministry of Aircraft Production, he raised the weekly delivery of aircraft from 190 to 475. That is sufficient proof of the efficacy of Beaverbrook's methods.

Bringing out the Best in Your Children

Most parents wish to do the best they can for their children. They often spend much more than they can afford on their children's education. Education is important but it is not enough; here are a number of important points to take care of in the development of young people

1. Encourage an alert and experimental habit. Encourage them to DO so as to give them an opportunity of self-expression.

2. Encourage them in a wide variety of interests to enable them to discover their inclinations - Art, Literature, Music, Science, Sports. Give them at least an elementary knowledge of each.

3. Teach them the value of hard work and enthusiasm.

4. Share their interests with enthusiasm and display those positive qualities which you know are needed to make a successful career.

5. Allow them to choose freely. Avoid pitching them into a field of your own choice or desire.

6. Make your home atmosphere really attractive; home environment and influence are powerful factors making for success.

Adequate First Aid Will Save Hours of Pain

Practically every case of blood-poisoning is caused through neglect of small wounds, cuts or scratches, and disability depends on whether infection follows or not. A cut or scratch neglected may mean a cut or scratch infected. No matter how trifling a wound appears, immediate attention may save weeks of suffering for the injured person.

Method of Handling

(1) If a cut is deep or appears to involve more than the skin, apply sterile gauze pad and bandage and send the injured person to a doctor immediately.

(2) If not of serious proportions dress as follows:—

(*a*) Remove grease from surrounding skin with benzine on sterile gauze or absorbent cotton, wiping away from, not towards, the wound.

(*b*) Wash wound thoroughly with liquid green soap (or any mild castile soap) and warm clean water, removing all grit or dust.

(*c*) Flush with warm, clean water or solution of common salt (one teaspoonful to a pint).

(*d*) Dry wound with sterile gauze pad and apply a dry gauze dressing and covering bandage.

Positive Approach

It is believed it is best to use the positive approach in safety, and other educational instructions. Instead of saying: "Don't cross the street in the middle of the block," the advice is phrased: "Cross the street between the white lines near the corner". This approach is more pleasing, and causes the learner to respond in a positive manner.

Accident-Proneness

The question of accident-proneness is an interesting one from several angles. It has been argued that some people are more prone to accidents than others, and it has been argued that such a statement is ridiculous. Yet, we all know that some individuals can do finer work than others, that some can do heavier work than others, so that there is no reason for supposing that it is a fallacy to think that some people are more prone to accidents than others.

Tests carried out in an English factory, covering the record of 600 persons, showed that those with no accidents or only one accident in a six year period averaged a very low frequency in a second period, while other workers who had two accidents or more each in the first period averaged more than three times as many accidents as those with a good record in the first period.

My own belief is that you are safe in working on the assumption that if in the first year or two an employee has more accidents than the average for workers with similar experience, there is something wrong with that individual's work methods.

Accident-proneness is not something which can be classified as a permanent disability, because a tendency towards accidents can be corrected by a study of the situation and a correction of the causes, or the individual failings, which cause the high frequency of injury.

* * *

Cool Heads

Keep a cool head on your shoulders. Cool heads prevent people from becoming dangerous, deadly mobs.

In case of emergency, act with good sense and according to instructions. Cool heads are cheap life insurance.

EFFICIENCY NEWS, April 1946

THE WILL TO WORK

By SIR ALFRED HERBERT, K.B.E.

***We have great pleasure in summarizing below a vital article on the urgent need for an all-out effort on the production front. We have to thank Sir Alfred Herbert who has very kindly given us permission to reproduce his article in the Efficiency News.*—Editor.**

TRUTH is great and will ultimately prevail, but the truth is frequently unpleasant.

One of the most fundamental truths that is almost invariably ignored is the fact that no material benefits can ever be realized except by work.

In the most critical days of Britain's history, Mr. Winston Churchill did not hesitate to proclaim that the country's national salvation was to be won only at the price of blood, tears, toil and sweat. On that occasion truth *did* prevail and by its wholehearted acceptance the war in Europe was won. A wave of enthusiasm swept through the country and under its influence industry achieved almost incredible results in producing the tools of victory, and the Services, with equal enthusiasm, used these tools to defeat the common enemy. With the unexpectedly early surrender of Japan, the shedding of blood in military action has ceased (at least for a time), and some of the tears are dried. The problem of providing munitions has now been replaced by the equally difficult problem of getting our industries back to a normal peace time basis of production and trade.

This we can hope to achieve only if we can build up the volume of our output and keep our costs of production and our selling prices within reasonable bounds.

The need for toil and sweat is as great as ever until the waste of war has been made good; not only at home but in those devastated countries for which the Allies have assumed responsibility or have had it thrust upon them.

We live in a world of continual change: nothing is fixed except the fundamental laws of nature, which change not at all, and human nature, which changes but little and not always for the better.

The essentials of our lives food, clothing and shelter can be provided only by work applied to the raw materials which nature gives us in abundance, but which are only made available for our use by labour in field and factory. The coal is there, but we must dig and transport it; the iron-stone is there, but it must be smelted and refined; the fields are there, but we must plough and sow and gather the harvest before we can eat. None of the blessings which are so light-heartedly promised to us can materialize until human labour has produced and distributed them. These are facts entirely outside the sphere of politics and no party whether of the right or left can escape them.

Promises to give us paper money can, of course, be fulfilled, but money, whether paper or even real money, merely offers the means of paying for the things we need if, and only if, the things exist, and the sad truth is that they do not and will not exist until by sweat and toil they have been made. The greater the amount of paper money we put into circulation the greater the demand for things on which to spend it and

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until the things we need are available in larger quantities the level of prices will continue to increase. This is what is really meant by the vicious spiral resulting in inflation. It has been said with Scriptural authority that if a man will not work neither shall he eat. This may not be true today for the individual, because we have already taken care that no one shall starve whether he works or not. But for the community it is still true and if the work is not done then all must suffer hunger and the nation must lapse into poverty and decay. *It cannot be sufficiently emphasized that money in itself cannot produce houses, nor food, nor clothing: these depend, and will depend, on the industry of the bricklayer, the farm worker, the spinner and the weaver.*

Science and machinery, if full advantage is taken of them, increase enormously the productive power of labour, but the labour is still essential both to apply the discoveries of science and to make, operate and control the machines.

There is an old song, which accurately describes an attitude which today is not uncommon :

"I often lie in bed and think
What an awful thing is work."

Few people, of course with many honourable exceptions, work merely for the love of work. It is interesting to probe a little into the motives which impel us to labour ; they are many and varied ; the love of power, ambition, prudence which teaches us to provide for a rainy day, the laudable desire to give our children a better time than we have had ; all these are powerful stimulants, and they constitute the rewards of work, but there are penalties : insecurity, fear of want, lack of houses and the lowering of the standard of living, both for ourselves and for our families.

Unfortunately, many of these hard facts are ignored and many of us live in a fool's paradise, hoping that by some miracle others will give us the things that in fact can only be produced if we ourselves take our full share in producing them.

Everyone engaged in industry knows quite well that during the last year or so, the will to work has largely deteriorated. The pride and satisfaction of giving a fair day's work for a fair day's pay seems to have disappeared, particularly from the younger generation. In its place we find the false doctrine of working for the shortest number of hours for the largest possible pay envelope. We all know that the wonderful achievements of the Services are only possible when there is good discipline. Military discipline has been defined as doing the thing one does not want to do, and doing it quickly. In industry no one wishes the stern discipline which is essential in the Services but, if there is no discipline at all, industry falls into chaos and under present conditions it is safe to say that industry is on the downward track so far as production is concerned, though the demand for goods of all kinds is greater than ever.

Millions of man hours are lost through starting late and stopping early, through absenteeism, through waste of time and in some cases through deliberate restriction of production, and all this waste has to be paid for by the consumers who still lack the necessities of life, to say nothing of its luxuries, and who are still obliged to stand in queues and to pay ridiculous prices for the limited supplies available.

The spirit of self-reliance is continually discouraged : no wonder it

(Continued on page 140)

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THE SETTLING OF DISPUTES

LIFE today is particularly full of trouble. Controversy occurs at all levels: between employer and employee, within the confines of the community and in the field of international relations.

Conflicts will continue to arise but there is no cause for regret in this. As a matter of fact, conflicts are necessary to the advancement of the world. But whether they lead to advancement or not depends upon whether they are handled positively or negatively, constructively or destructively, efficiently or inefficiently.

The usual way of settling disputes is either by *domination* or *compromise*. Let us examine the merits of these methods before proceeding to discuss the psychologically sounder method of settling disputes by *integration*.

At the present moment, domination is the easiest way of dealing with a conflict. One side gains a victory over the other. But such a victory does not mean success; for the dispute has not been solved at all, and in the long run it must come up again.

Many of our controversies are also settled by compromise. Each side gives up a little in order to keep the peace, and to allow the activity to go on uninterrupted. Compromise is the basis of Trade Union activities. They over-call their hand, in order to allow for what the Adjudicator or Conciliator is going to disallow. Compromise means giving up a part of the demands on each side; the parties to it cannot, therefore, be content to rest there, and so the conflict comes up again in some form or the other, with a view to getting the whole of their demands satisfied. Compromise does not create; it deals with what already exists.

Integration, on the other hand, creates something new; for the desires of the opposing sides are integrated and a solution is looked for in which both sides have a place and neither side has had to sacrifice anything.

Consider a simple illustration. A busy workroom. The workmen enjoy working in a fog. When the service men returned, they objected to working in the stale, warm air. They wanted fresh, clean air. And there was trouble. The problem then was to allow the old men to work in a climate of their own making and yet give the ex-servicemen their fresh air. The controversy was settled by putting the younger men in a room of their own where they could adjust their ventilation to suit themselves, without interfering with the older men's comfort and well-being.

Let us take another illustration quoted by Mary Follett. A Dairymen's Co-operative League almost came to blows on the question of precedence in unloading milk-cans at a creamery platform. The men who came down the hill (the creamery was situated on a hill slope) thought that they should have precedence; whilst the men who came up the hill thought they should unload first. The thinking of both sides to the dispute was thus confined to these two possibilities. The solution was obviously to change the position of the platform so as to enable both the down and up traffic to unload at the same time. This is a good example of the creativeness of Integration, for it satisfied both parties completely and resulted in an improved method of unloading.

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The principles upon which Integration is secured are :—

1. Both sides should genuinely desire an agreement.

2. All differences should be brought into the open. All the contending parties should lay their cards on the table so that everybody knows the facts of the dispute and everybody is in a position to examine and weigh these facts. This leads to re-evaluation—a vital point in creating harmony between apparently opposed view-points.

3. Look for the significant, rather than the dramatic, features of the controversy. The highlights in situation are not always those which are most indicative of the real issues involved.

4. Examine the language used. Find out whether it expresses the real desire. Demands, whether from employees or others, written in legal terminology are usually an unsatisfactory way of presenting a case, for the other party to the dispute immediately stands on his defensive.

Integrating the desires of the parties to the dispute requires a high order of intelligence It is a tame affair, however, since no one wins, but it is worth while for it is creative and satisfying all-round.

To sum up: instead of condemning conflicts, set the differences to work constructively, in the same way as the mechanical engineer sets friction to work.

Note: In the preparation of this short article, the writer has drawn liberally from the Paper *Constructive Conflict* by Mary Follett.

* * *

Juvenile-Employment Service

(*Continued from page 119*)

Employment office for friendly advice on any difficulties with which they are faced.

The Committee finally recommend that a scheme of training grants be instituted, so that a boy or girl who shows a marked aptitude for a particular vocation may have the opportunity of the necessary training if such training is not readily available near home.

THE TECHNIQUE OF THE INTERVIEW

THE aim of the employment interview is to select the right man for the right job. This is probably the most important single function of the Personnel Department; for, while we constantly argue about wages and working conditions, in the final analysis it is occupational maladjustment which is the prime cause of labour turnover, inefficiency and unrest. The cost of these evils is heavy, and is borne by industry and the community.

Inspite of these important considerations, few firms make a determined effort to develop the difficult technique of the interview, an indispensable tool in the efficient selection of personnel. The untrained and inexperienced foreman or office supervisor is permitted to "hire and fire" according to his requirements. Prejudices, superstitions, "hunches," and doubtful intuitions are made the bases of selection.

Scientific interviewing is a regular series of functions. The applicant is first asked to read the firm's policies, rules and working conditions, usually set out attractively in an Employee Handbook. If after reading this information the applicant is still desirous of working for the firm, he is given a preliminary interview. This interview usually reveals those of the applicants who are quite unsuitable for the advertised posts. These are turned away, with suggestions, if any, as to where they are likely to find work for which they have an aptitude and the necessary training.

The remaining applicants are then required to appear for a set of psychological or other tests. The successful ones are made to fill in a carefully designed application form and asked to appear for a second interview.

With the information derived from the first interview, the tests, the application form, and from any other intervening investigation, the interviewer is now fully equipped to get really acquainted with the applicant.

The latter is put at ease and made to talk freely about his health, academic education, vocational training, hobbies and other activities, his attitude towards different types of work and people, his aptitudes and ambitions. The interviewer usually starts with inquiries about the applicant's previous jobs - the salary received, duration of employment, reason for leaving, length of interval between each job and the next, and so on up to his present job or the last job he held.

If the interviewer has the necessary training and aptitude for his work, the information now in his possession will give him an idea not only about the applicant's ability, experience, and overt personality traits, but even about his moral qualities, such as loyalty and honesty. The value of the data supplied to the interviewer depends, of course, on the latter's power of interpretation.

Many firms have a board of interviewers. This seems superfluous, except in the filling of superior posts; for too many interviewers only tend to confuse the applicant. One trained interviewer and the head of the department in which the vacancy exists are usually sufficient.

If the interview is to be successful, it is of the greatest importance that the applicant should be at ease. The interviewer's attitude is largely responsible for this. Privacy, informality, and a seat will usually

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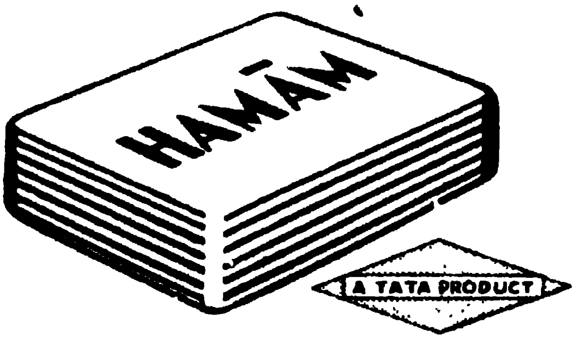

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put the applicant at ease, while a sympathetic ear will draw him out more than any amount of cross-examination.

Most important of all, the interviewer should always keep in mind the future, not the past. His ceaseless endeavour should be to gauge the applicant's potentialities, not the magnitude of past failures or successes. The vital point is to size up the applicant in relation to the vacant post and the post beyond.

In conclusion it would be worth quoting certain recommendations put forward by Bingham and Moore in *How to Interview* and cited by J. F. Clark, B.A., B.Sc., in his article on "Selection of Personnel."

1) Interviewers should be carefully selected.

2) They should be well trained in how to use the data obtained in the course of the interview.

3) Traits to be rated in the course of the interview should be carefully defined and objective methods of obtaining judgment of these traits should be provided. The traits chosen for rating will naturally be those required on the particular job and will differ from job to job. Such estimates can best be obtained on carefully prepared rating scales.

4) Questions to be asked in the interview must be carefully phrased so as to convey the best meaning.

5) Care should be taken that a favourable atmosphere prevails during the interview. An accurate estimate of the applicant cannot be made unless he is at his ease and is capable of giving his best.

6) Avoid answering or implying the answer to your own questions.

7) Listen and let the interviewee tell his story. Then help him to supplement it.

8) Examine and discount your own prejudices.

9) Get the full meaning of the interviewee's statements. Interpret his statements at once.

10) Follow up any cues given during the interview, but be careful to keep to the point.

11) Allow time enough.

12) Keep control of the interview.

Saving Time

We are a restless people. We rush around here and there, crowding as many things into as short a time as possible. "Life is short," and "Time is money," are two of our guides.

A certain amount of this is good. It keeps us from being lazy and urges us on to accomplishments. However, if carried too far, it defeats its purpose.

A case at point is the man, who at the close of the day's work, jumps in his car and races home at break-neck speed. More often than not, all he does with the few minutes he may have saved is swear because dinner isn't ready, scold his youngsters for some unimportant mistake, or go to sleep listening to the news on the radio. Are such petty things worth the risks he took with his own life and the lives of others as he raced to be the first one home?

Why do first class workmen sometimes fail to use safety devices, or adopt other ways of short-cutting a job just to save a few minutes time? What if it does take fifteen minutes or a half hour, yes, even an hour longer to change out that insulator? Could the time saved be put to better use than that of protecting the lives and persons of the men who do the work?

Held within the bounds of its rightful place in the scheme of things, saving time is a desirable thing. But it isn't if it has to be done by gambling with human life as the stakes.

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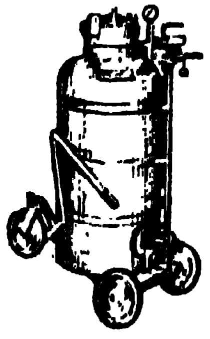

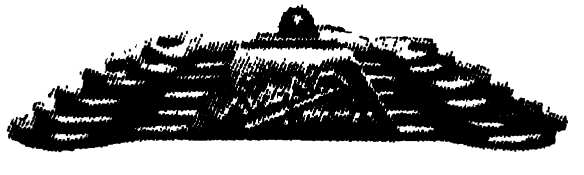

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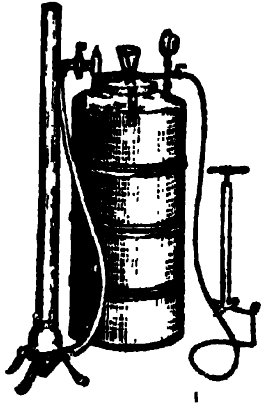

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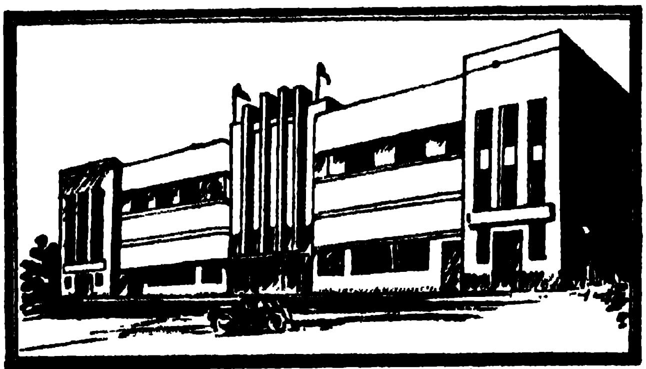

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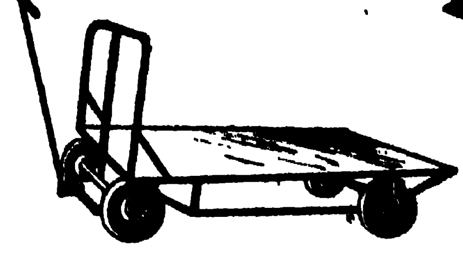

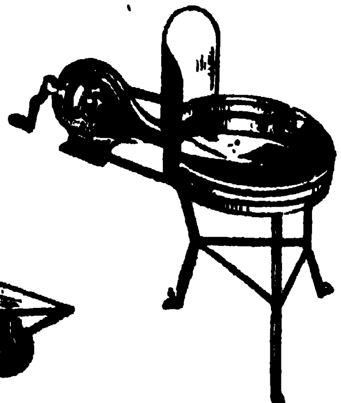

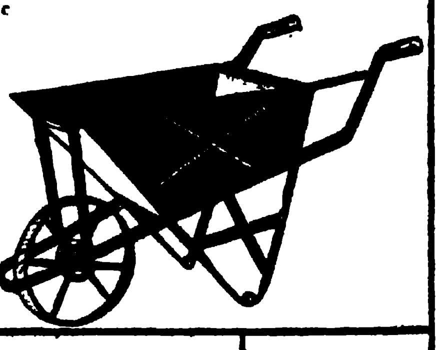

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THE HANDLING OF FOOD

The efficiency of the canteen has already been discussed from the point of view of the cook and the cook-house. The present article, dealing as it does with the actual handling of food, concludes this useful series.

Canned Food: All canned food should be most carefully examined. If the tin is blown, or if it shows signs of having been tampered with (such as solder spots), it should be destroyed forthwith.

Cleanliness: Scrupulous cleanliness must be insisted upon in the case of all persons handling food. The highest standard of cleanliness is also essential in all places where food is collected, packed, prepared, or stored. Food and water may become infected if cooks or other persons handling food are 'carriers', or if utensils are not thoroughly cleaned. Disease may also be passed through dirty clothing or carelessness in matters of personal hygiene and cleanliness.

Crockery: Chipped or cracked cups, plates, and other crockery should either be dispensed with or carefully disinfected before use. A well-known bacteriologist Dr. Sidney Linfoot, Ph.D., B.Sc., A.M.I. Chem.E.—obtained a small number of cracked cups from restaurants and cafes of all types to be examined bacteriologically. The examination revealed germs of various types, particularly those present in skin diseases. "The answer to these dangers," Dr. Linfoot believes, "is efficient cleansing, or, ideally, the exclusion of faulty vessels. The fault in most restaurants is that washing water is not hot enough either for adequate cleansing or sterilization." The remedy consists in the following precautions: "All utensils, after the removal of food remnants, should first be cleansed at a temperature of 120°F. They should then be rinsed in clean water at a temperature of 170°F. for 2 to 5 minutes and allowed to drain and dry without wiping. For drinking glasses in bars, chemical disinfection with chlorine (50 to 100 parts per million) after washing in water is recommended."

Cutting Up: All cutting up of meat and pastry should be done on the cutting-up boards and pastry slabs provided for the purpose, and never on the cook-house tables.

Diseases: There is a long list of communicable diseases which may be spread through unhygienic practices in the handling of food. Excremental diseases are easily communicated through water, food, and unclean hands. A variety of droplet infections are sprayed into the air in droplets of saliva and whilst coughing, sneezing, spitting and even talking. Various skin diseases and V.D. are transmitted through contact. Finally, animals and insects frequently act as "carriers" of such deadly diseases as plague, cholera, and typhoid. An ounce of prevention here, as elsewhere, is worth many tons of cure. The utmost cleanliness must, therefore, be insisted upon at all times.

Equipment: All equipment used in the kitchen should be kept clean and in good repair. Food cannot be efficiently handled and prepared in the absence of adequate and clean equipment. All chopping blocks, crockery, and cutlery should be maintained in good condition and thoroughly cleaned after the last meal of the day. The same applies to grinding, mincing and other machines.

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Fruits : Only those fruits which do not need peeling should be eaten raw, but *after* they have been washed thoroughly. Over-ripe and decayed fruit should be immediately destroyed.

Inspection : In order to ensure that food is properly handled, a carefully planned procedure of inspection is essential. Proceed step by step in an orderly, methodical manner, so that no point is overlooked. The inspection should be carried out regularly, and everything should be carefully surveyed, as follows: (a) Take a quick look round for cleanliness and tidiness; (b) Inspect all food on arrival, especially live food such as poultry. A knowledge of the pathological conditions to be looked for is important; (c) Ensure that the building and its parts are in good repair. All equipment should be serviceable and safe for the purpose for which it is intended; (d) the staff (their health and cleanliness) and their quarters (good house-keeping and tidiness) should also be looked into; (e) the compound or other surroundings should also be examined. The presence of creepers and overhanging vegetation should be forbidden, and the drains should be clear, clean, and disinfected. Offending practices should be put right at once. Good practices should be complimented with equal promptness.

Milk : Milk is liable to contamination from dust, flies, dilution with unclean water, etc. Cans, bottles, and other receptacles for milk should, therefore, be sterilized by steam, and they should also be provided with dust-proof covers which can be sealed to prevent them being tampered with. When open, milk containers should be kept in fly-proof safes or covered with gauze or other material to keep flies away. Lastly, milk should be pasteurised at a temperature of not less than 145° F. or more than 150° F. for 30 minutes and then cooled rapidly to not more than 55° F.

Preparation of Food : Cooking improves the appearance and smell of food and also kills harmful germs. It breaks up the cellulose and wood fibres in vegetables and makes hard substances easier to chew. It increase the digestibility of vegetables but not of animal foods, so that the purpose of cooking meat should be only to remove its raw appearance and to make it soft. Much of the food value may be lost through careless or bad cooking, and variety in cooking is as important as variety in the food itself. Vitamins are destroyed by prolonged heat and a continual diet of stews and other overcooked foods results in a deficiency of vitamins.

A healthy diet is a well balanced diet, namely, one containing minerals, vitamins, proteins, fats, carbohydrates, and adequate "roughage" not only to ensure "fullness" but to increase the action of the intestines. But no matter how expertly food is balanced, it must also evoke appetite. This implies variety, careful preparation, a pleasant appearance and smell, and good service in pleasant surroundings.

Only that food which is to be used during the day should be kept in the cook-house, the rest being carefully stored away. The food which is not actually in the process of being cooked or prepared should be protected from flies in fly-proof safes.

Refuse : Arrangements should be made for the disposal of dirty water, swill and, kitchen refuse, since neglect of proper sanitation in these matters leads to insanitary conditions and attracts flies and other pests. The importance of these arrangements should be stressed on all cooks and others engaged in the handling of food.

Refuse bins should be made of metal. They should be provided with handles, and loose-fitting lids with flanges overlapping the sides of the bins. Wooden receptacles are not suitable for the purpose, although barrels may be used for wet refuse, such as swill, provided they are water-tight and have good lids. Bins should stand on a hard, smooth, impervious plinth to prevent fouling of the surrounding ground.

Storage and Use: Food stores should be well ventilated, dry, and well lit, while bread and meat stores should be fly-proof and rat-proof, especially in hot climates. As we have stressed already, only the food for the meal under preparation should be kept in the kitchen. The rest should be stored in a fly-proof safe. It is not much use covering food with gauze when flies are about, as the feet of the flies will contaminate the food by treading on it through the holes in the gauze.

Stores, Dry: Dry stores should be kept in bottles with screw tops, or in tins with properly fitting lids. Goods kept in paper bags or open receptacles are exposed to dust and insects.

Utensils: All cooking utensils, including all pots and pans, should be freed of grease after each meal. Luke-warm water is of little use in doing this. Almost boiling water, with an ample supply of soap and soda, are effective. After cleansing—and this is most important at the end of the day—the utensils should be dried with clean cloths and placed on shelves so that their sides and interiors are exposed to air and light. The practice of leaving used utensils to be cleansed overnight is a dangerous one. So also is the practice of cleansing untensils with earth or sand; ashes from the fire should be used for this purpose.

Vegetables: These should be prepared in a special receptacle, and never in the same sink or other receptacle in which pots and pans are washed. They should be stored in a current of air to prevent moulding; this is best done with the use of a wire basket. Whether vegetables should be eaten cooked or raw depends upon one's habits and tastes. But in cases of an epidemic, they should always be eaten cooked.

Water: In the preparation of food, an adequate supply of both cold and boiling water is essential. This should be clean and from a source which is not contaminated with sewage. A variety of bacterial and worm diseases are transmitted through water. This should be borne in mind in the handling and preparation of food.—*A.S.T.*

* * *

THE WILL TO WORK

(Continued from page 129)

grows faint. Young men returning from the Forces are told that they are to have special training to fit them for "positions" in the industrial world and arrangements are proposed for lectures, "courses" and what not. Very few "positions" are waiting for them, but there are any number of "jobs" for those who seek them diligently and are prepared to take off their coats and work their own way to such "positions" as they prove themselves capable of holding. And, be it remembered, the best industrial training colleges in the world are the workshops and the business offices of our industrial enterprises where the hard and inescapable facts of life take the place of more or less nebulous theories.

WANTED: A GUIDE TO INDUSTRIAL CAREERS

If India is to achieve her industrial plans speedily and effectively, it is essential to provide guidance for our young people to choose the right careers. Mere academic education is at a discount today; there is a corresponding rush to our few technical colleges and institutions. This may be a step in the right direction, but it is not enough merely to seek technical education with an eye to the proposed developments in Indian industry in the post-war period. Careers have to be chosen with a full knowledge of what they have to offer. The eager student must be in a position to match his training, aptitude, temperament and personality with the career he intends to follow. In this matter, youth needs guidance; for mere enthusiasm, unless carefully directed, will not do. The truth of this remark is illustrated by the number of misfits and disgruntled employees which we find in our business and industrial organisations today.

Each occupation clamours for men and women having the necessary qualifications, character and personality. Each profession and trade knows or ought to know the qualities it needs. These qualities, and the degree to which they are required, should be set out in writing, so as to assist those responsible for the training of the younger generation in the matter of vocational guidance.

The chief requirements in the vital supervisory fields are desirable personality traits, ability to organise, and technical talent; but it is only the practitioners who can list these talents and abilities so as to provide a guide to young men lacking in experience and perspective.

These practitioners or specialists should, therefore, prepare catalogues describing their work in clear non-technical language as an aid to parents and teachers who shoulder the task of guiding the young. This work is of national importance and upon it rests the progress and prosperity of India.

In the average town there is ample opportunity for using a variety of abilities. Careers are open in Commerce, Finance, Industry, the Public Services, and in numerous professions of applied art. If the school-master and school-mistress have done their job properly, the outgoing school-boy and school-girl should have a knowledge of the requirements of the various professions and trades open to them. If the teachers have not attended to this part of their job, then it is incumbent on the community to provide adequate information on the careers available to boys and girls leaving school.

It may happen sometimes that a given environment does not provide an outlet for certain abilities or talents. In this case, of course, it would be necessary for the possessor of these unusual qualities to find scope for them elsewhere.

Schools and colleges should also take their students on visits to factories, offices, and other places so as to bring the young face to face with the various professions open to them. Consultations with Vocational Advisers and Industrial Psychologists, if any, would also be most helpful.

Concerted action with a view to providing a comprehensive guide to careers would undoubtedly provide the younger generation with invaluable help in assisting themselves and their country. Nor would the collection of this data entail much work; for the information is available—all that is to be done is to collate it, sift it, and catalogue it in attractive folders covering the various professions which are available today or likely to be available in future. There is little guidance in this connection today. One or two English books are there, but these are related to English conditions. The information we need should be based *on* Indian conditions and *for* Indian conditions.

In the writer's opinion this information should cover:

1. A general description of each field or profession.
2. The qualities required for success in each field and the degree to which each of these qualities needs to be developed.
3. The prospects offered by each profession.
4. The education, both theoretical and practical, required for a successful career in each field.
5. A list of places or institutions where training in each profession is available.

The task of preparing a folder containing the above information in regard to the various professions could be undertaken either by retired men who have served in business or industry; or by the present generation of managers and other executives who are in touch with the practical requirements of the fields in which they are engaged; or by a representative agency especially established for this purpose. We are confident that experienced men would be most eager to render whatever help they could in guiding the coming generation into suitable careers. This would be more than a service to our boys and girls. It would be a direct and vital contribution to the future development and progress of our country.

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Employment and Production

A conference of all British Trade Unions executives is shortly to be called to hear from the Minister's frank statements on Britain's industrial and economic position.

Mr. Isaacs, Minister of Labour & National Service, gave the committee of the Trade Union Congress urgent reasons which, in the Government's view, require the co-operation of not only of the Unions officially but of the members of the Unions as individual workmen, in keeping production at the highest level. The Unions have to be convinced that full employment can only be attained with full production, and that hindrances to full production are hindrances to Labour's social programme as well as dangerous to the whole of the national economy. The coming conference will cover a great deal of ground. It will, in fact, take stock of the insufficiency of man-power, the volume of output and the rate of production by the hour and by the week, and production for export as well as for home needs.

This conference will be looked to with great interest ; for the policy of restricting output is a basic factor in certain circles on the false assumption that greater output and labour-saving devices cause unemployment. What is equally deplorable is the idea so widely held that higher wages must mean a higher standard of living regardless of the rate of output.

Surely the value of money depends on the amount of goods or services for which it can be exchanged.

Fortunately, it is beginning to be widely realised that higher wages *without* a corresponding increase in output leads infallibly to inflation—a state of affairs which benefits no one and undermines, the very foundations of national economy.

A Safety Code for Pedestrians

The Royal Society for the Prevention of Accidents has issued a Safety Code for pedestrians which, we are confident, will be invaluable to those who have to move about on foot through our busy and congested thoroughfares. It will not do, however, merely to read this Code ; it must be made a daily drill until its practice becomes an unconscious habit.

1. ALWAYS use pedestrian crossings, footpaths, and refuges where available.
2. ALWAYS look right and left before stepping into the roadway.
3. ALWAYS choose the least dangerous point from which to cross.
4. ALWAYS select favourable opportunity to cross.
5. ALWAYS keep your mind on the traffic whilst crossing.
6. ALWAYS beware of stepping from close behind one vehicle into the way of another.
7. ALWAYS take extra care when the road is greasy.
8. ALWAYS realize the danger of boarding or leaving moving vehicles.
9. ALWAYS look out for traffic before boarding or leaving trams.
10. ALWAYS retain your presence of mind if caught in traffic and avoid dodging about.
11. ALWAYS be ready to help children to cross.

Note :—When on a road without a footway, walk on the right of the roadway, thus facing the approaching traffic. It is a help to considerate drivers if pedestrians who wish to cross a road clearly indicate their desire to do so.

The Mitchell Medal

The Council of the Indian Roads Congress decided last year to review all the Papers hitherto published in the proceedings of the Congress and to award a Mitchell Medal to such of them as were considered of outstanding merit.

In view of this decision, at the 10th Indian Roads Congress held at Jaipur recently, Mr. A. S. Trollip, Honorary General Secretary of the Safety First Association of India, was awarded the Mitchell Medal for his Paper on "Ribbon Development" submitted to the Congress in 1939.

Whatever You Do, Take Care of Your Hands

Hands do the work of the world and have to be exposed to certain risks to do it, but most of these risks can be avoided by a little care and thought.

If your job requires the handling of objects with rough or sharp edges, gloves will save many scratches and splinters. But if you work with moving machinery, don't wear gloves; they are liable to catch and draw your hands into trouble.

If your hands are much in contact with grease, oil, kerosene, paints or solvents, wash frequently with WARM water and a mild soap. Avoid harsh, abrasive soaps and rough scrubbing. Oils and greases clog the pores, and kerosene and petrol remove the natural fat and dry the skin, while harsh scrubbing roughens and injures it. All these conditions allow the entry of the germs to the skin, diseases generally spoken of as dermatitis follow.

If your hands suffer cuts or splinters, get skilled first-aid promptly. Don't wait till infection starts.

Use your head to save your hands from accident; your hands are valuable. Few of us realise how valuable our hands are to us till we lose the use of them.

If you don't believe this, ask the man who has lost one.

"Ten Commandments of Management"

The change in emphasis from the technical to the human element in industry is reflected in the "Ten Commandments of Management" issued in an attractive folder by the London Branch of the Institute of Factory Managers:

1. Make few promises and keep them.
2. Be fair. Don't have favourites.
3. Don't waste anger; use it. Get mad once in a while, but not often.
4. Always hear the other side in a dispute.
5. Don't bear malice. It kills loyalty.
6. Don't be discouraged. It is your duty always to be enthusiastic.
7. Notice good work, as well as bad. Give praise as well as blame.
8. Study your men as you would your children.
9. Give every man two chances.
10. Take your full share of the blame. Don't pass it down a long line of descendants.

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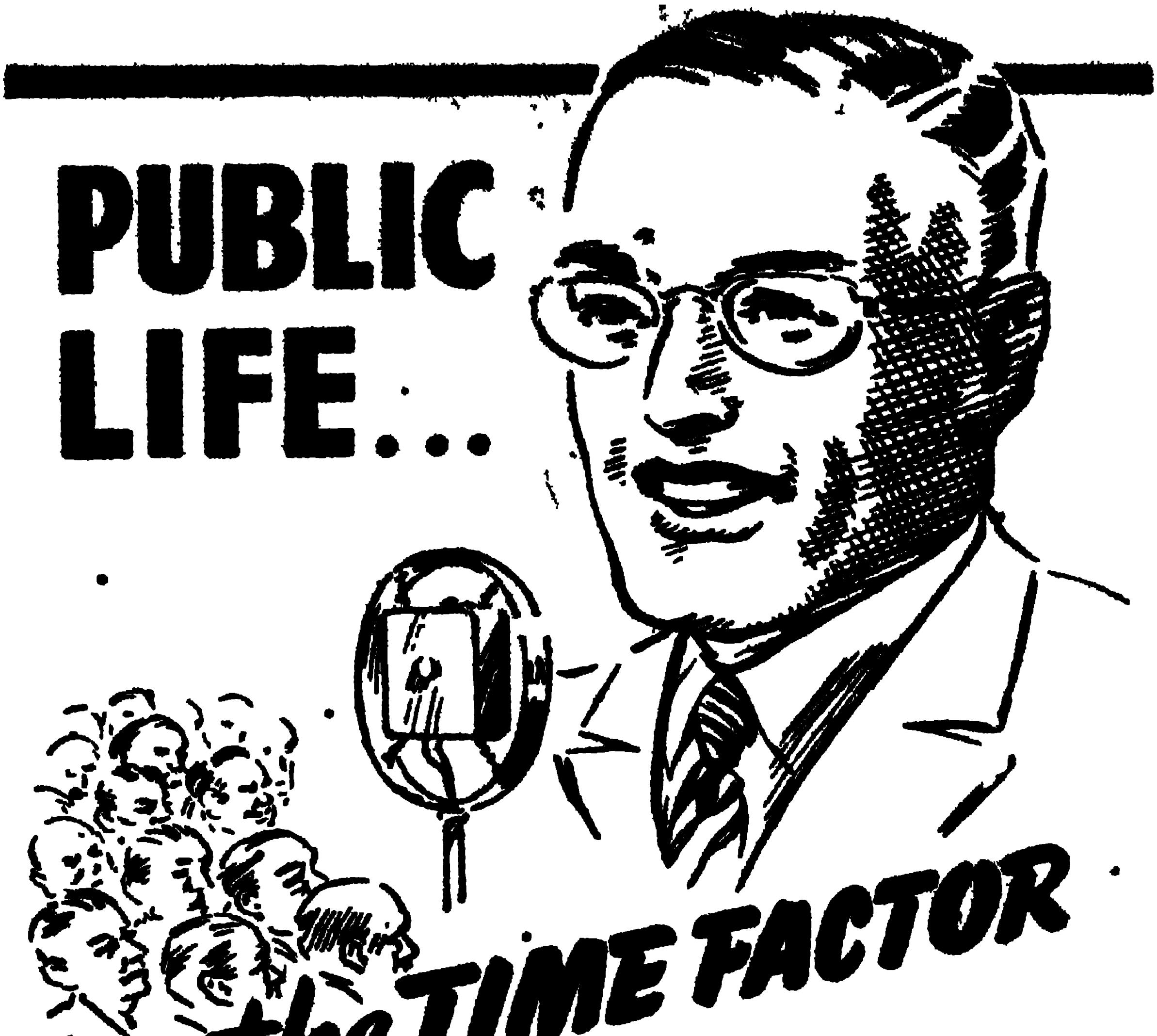
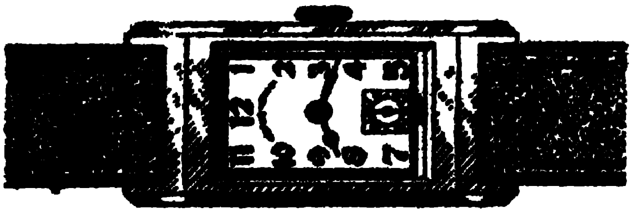
PUBLIC LIFE...



—the TIME FACTOR

Public life makes many demands upon the time of the individual, whose many engagements can only be carried out smoothly if due regard is paid to an orderly schedule. Obviously, the first essential is a reliable time-keeper, for no schedule can be kept without one. Men of affairs know the value to them of a "West End" watch—its dependability ensures the perfect timing of their daily programmes. Many designs of character and distinction will soon be available again.



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EFFICIENCY NEWS

Vol. XIII. No. 5. MAY 194[illegible] Price As. 8

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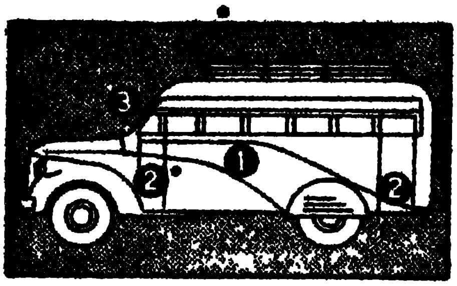
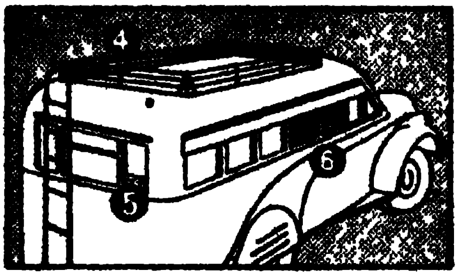


① A wide choice of two-colour finishes is offered.

② A door on front provides entrance to first class passengers, with one at the rear for the other passengers.

③ A special air duct is provided in roof to ensure good circulation of air within.



④ The luggage carrier, readily accessible by the rear steel ladder, has an area of 61 sq. ft.

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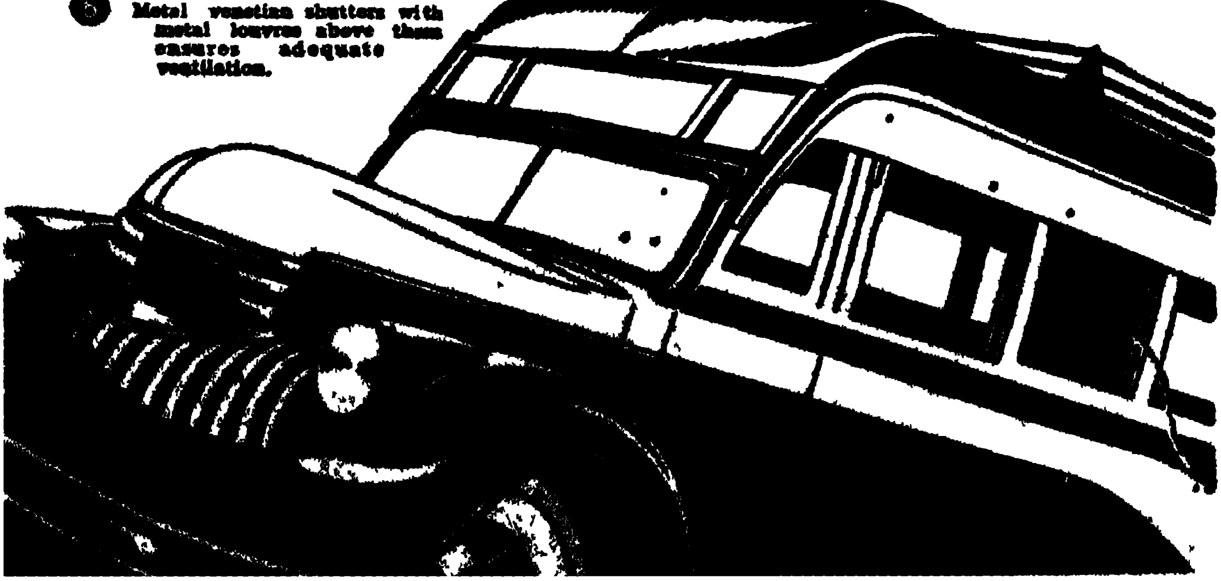

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EFFICIENCY NEWS

Vol. XIII. No. 5. MAY 1946

INFORMATION CENTRES

PEOPLE engaged in scientific, technical, and research activities need to keep themselves in touch with the advances made in these fields all over the world. In modern times, when a ceaseless flood of expert knowledge flows from the technical press, the problem is not how to obtain information, but how to utilise effectively the almost bewildering mass of material which is available. It is practically impossible for any individual to peruse, however cursorily, all the published literature bearing upon even his own limited sphere of interest.

To meet this difficulty, several industrial concerns in Great Britain and the U.S.A. have set up information departments within their own organisations. These departments examine all available sources of information and draw the attention of their scientific staffs to items bearing on the activities of the organisation concerned. Sometimes they prepare abstracts of such information with an indication of their source for future reference. They are often required to find answers to queries raised by the laboratory or the works. While such departments are common in engineering and chemical firms, they are also found in other industries and in certain government institutions.

With the advent of peace, India is certain to start on the many plans sponsored by the Government and by private agencies. For the success of these plans, we shall need to have up-to-date technical information, on a variety of pursuits, within our ready reach. To provide an efficient information service, we shall need trained technical personnel, and we shall have to subscribe to a large number of technical journals which are regarded as authoritative in their fields. Finally, the men chosen for this work will have to read, sift, summarise, collate and index the information likely to benefit the various industries.

The earlier we make a start in this direction, the better. Our textile industry, which is the staple industry of India today and which has benefited so much by the war, might well give the lead. The jute, iron and steel, mica, chemical and leather industries would also benefit greatly by adequate information centres.

In the initial stages, it would be advantageous to become affiliated to such bodies as the Association of Special Libraries in Great Britain, or the Engineering Index Incorporated, U.S.A. Particulars about these two information services will be found elsewhere in this issue.

Some of our industries may have their own information services already functioning. In that case, their experience will be an invaluable guide to those which may be set up hereafter. Initial expenditure there will be in establishing such centres. Maintaining them on a high level of efficiency will also cost money. But the question of outlay, which could be easily borne by member firms seeking this service, must on no account be allowed to stand in the way. The money spent will be repaid a hundredfold by increased productivity, economy and efficiency.

THE FACT-FINDING COMMITTEE

IF India is to achieve the high standard of living which she has promised herself in the post-war period, it is essential that we should increase our production to the maximum, for we can enjoy only those commodities and services which we are capable of providing. If production has to be kept at a high level, it follows that the apparent conflict of view-points between Capital and Labour must be eliminated.

There are three common ways of dealing with conflicts or differences of opinion between employers and employees: First, *Domination*, by which only one side gets what it wants; second, *Compromise*, by which neither side gets what it wants; and third, *Integration*, by which a way is found wherby both sides may get what they want.

When we find a way that includes the ideas of the two or more parties to a dispute, we get progress and all-round satisfaction.

It has been truly said that Capital and Labour must either fight or unite, and since it is necessary in the interests of our national efficiency to achieve the maximum production per man per hour, it is vital that we should stop the tug-of-war between Capital and Labour and learn to co-operate for the benefit of both.

The most effective way of doing this is to jointly examine the facts of the dispute. If we do this, we are very likely to follow the process of Integration, by breaking up a whole situation into its component parts and considering each part separately. No other method is known which gets rid of antagonism between two or more parties so effectively and quickly.

Prof. Harold Laski in his *The Foundation to Sovereignty* suggested that participation in the early stages of trade differences should begin with independent investigation.

Mary Follett—a political and business philosopher of the first rank—who devoted a lifetime to searching for the true principles of organisation, stresses in her *Greative Experiences* that co-operative gathering of facts is more useful to the resolution of conflict than for each side to get them separately and then try to integrate them; for when each side gets them separately, there is a tendency for each side to stick rigidly to its own particular facts.

These are not mere academic opinions. Experiences subsequent to these writings have proved beyond doubt that a joint study of the facts underlying conflicts between various parties invariably proves successful, for it provides an accepted foundation upon which to base the discussions.

Mr. Burton in his book *Employee Representation* tells us that joint fact-finding has become an accepted and characteristic procedure under Employee Representation plans. He says: " Joint fact-finding on a large scale has been a noteworthy accomplishment under the Employee Representation plan of the Pennsylvania Railroad. Agreement on facts as the basis of discussion is encouraged at every step......As originally drafted by the Management and general chairman representing the employees in the Engine and Train service, the procedure outlined for referring matters beyond the official first hearing of the case prescribed that there should be a joint statement of agreed-on facts.....and the representative plans adopted later by other branches of the service embody the same provision.".

Physical Training—A Part of Industrial Life—I

H. MARGARET WATT

Central Council of Physical Recreation

THE assertion that "a positive health programme pays" is gradually being accepted by more and more industrialists as they study such human problems as absenteeism, accident prevention and the adverse effect of over-monotonous work on workers and thus on production. It has been said that "good health is an almost indispensable requisite of a proficient worker, whether mental or physical, and even slight indispositions are often sufficient to degrade the quality of the output of work by the labourer*" and that "for every worker absent due to illness there are two who are sick and working on the job at 10% to 50% of efficiency."†

It seems, therefore, worth while to give thought to methods of preventing not only illnesses but such slight deviations from the normal as strains, backaches, constipation and headaches. More and more people now realise the importance of a balanced diet, of good lighting and adequate fresh air. They accept the principle that reasonable hours of sleep and relaxation are essential to good health and efficient work, but the importance of movement is generally much under-estimated or even not acknowledged at all.

Importance of Movement.

Movement is important in many ways. At 14, on leaving school a girl has usually a fairly harmoniously developed body, capable of active work of all kinds. Almost immediately, however, in industry she proceeds to sit at a bench all day, or to stand by a machine, and her actions become limited to an extent seldom realised. She may move only her hand for several hours on end; she may stand practically still for an equal number of hours, or move in a one-sided direction every day throughout the year. This naturally means that her general physical capacity is gradually but appreciably lowered. She becomes stiff jointed, her abdominal muscles are often weakened by her sitting or standing positions, her feet are often used wrongly, even if occasionally they happen to be in the right kind of shoes, and she may develop, especially if young, a curved spine. These disabilities may not immediately result in absenteeism, but they do result in lowered vitality and a lessened capacity in all but the one limited direction. The logical outcome of such limitation is, therefore, that what was once a complex and extremely complicated machine becomes, at a very early stage, efficient in one part only. In industry this would seldom be allowed to happen to any mechanical contrivance.

If young workers, therefore, are to be useful in more than one field of work, it is vitally important that their joints are kept supple, their muscles used and their powers of co-ordination kept unimpaired. It is often urged that workers are

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* "Physiology of Muscular Activity," (p. 306) by E. C. Schneider.

† "Industry and Workmen's Compensation Laws"—The American College of Surgeons, Medical Service.

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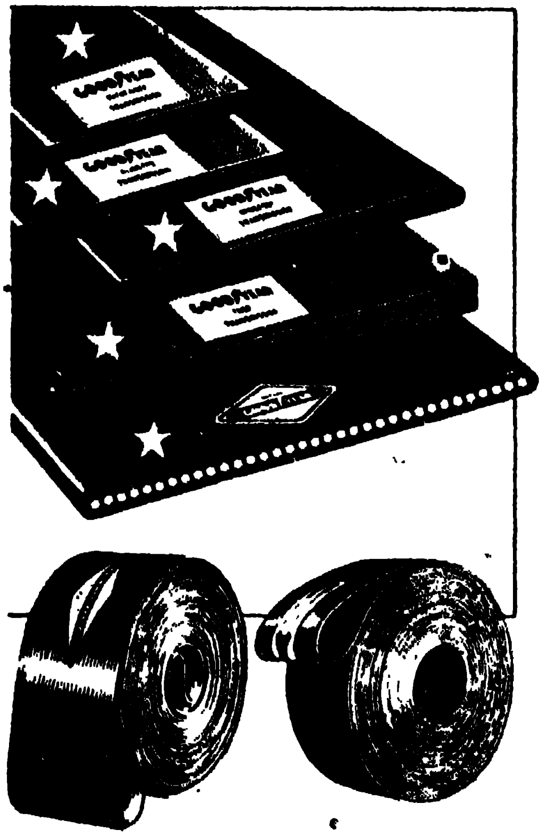

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too tired for further physical activities in leisure hours but the admitted fact that girl workers are seldom too tired to dance shows that this problem is not entirely a physical one. " There is a difference between physiological and industrial fatigue. The first is typified in the exhaustion of a runner, but the second is a mental and physical tiredness resulting from many mental and physical factors . . . . . The elemental changes of exhaustion do not occur."* Further physical activity, therefore, should be possible if it is really enjoyable and if it attracts. The idea that all forms of exercise are strenuous is mistaken. Many of them can teach rhythm, relaxation and correction of working faults and can result in making work lighter and giving a rested feeling rather than an added weariness.

Every encouragement, then, should be given to young workers to take varied forms of exercise in their leisure hours—walking, cycling, keep-fit classes, swimming, are all popular and useful, and team games play a particularly important part in an active programme. Most firms seem to think that if they adopt games in factory life, one team for any game is enough, and that games are primarily for competitive purposes. Great efforts are needed, all the time, to convince managements and workers alike that six poor netball teams playing each other will do the factory and the individuals more physical good than one team winning league matches.

If it is accepted that young workers gradually become less capable physically, it is obvious that older girls and women will show clear signs of being not ill, but not quite fit. They may become more skilled and quick at their particular job but often that localised skill is purchased at the price of such things as constipation, backache and general lethargy. Constipation and digestive troubles, if not directly caused by immobility, are often gravely aggravated by lack of movement, a point frequently overlooked during a feverish examination of diet. Respiratory troubles are also aggravated just as much by rigid and contracted chests as by damp air, and backaches are caused not only by internal troubles but often by faulty standing or sitting positions.

The "Active" Break

At present, such subnormal conditions often develop into causes of absenteeism, and here a plea is made for some form of physical training in working hours. It may take the form of a short active break several times a week for young girls who stoop over a bench all day; it may mean a weekly remedial class for older women who have tired or flat feet, followed by helpful advice on how to stand and walk; or it may mean quick chest-mobilising exercises in the open air for laundry or dope-shop workers. It is obvious that initial delay and unheaval will be caused by such classes, but a business man who does much of his writing in long distance trains and is conscious of the value of a quick " breather " up and down a platform may be persuaded that what looks like a delay may eventually lead to increased vigour and output. We read a good deal about rest breaks in these days, but for many workers wisely planned active breaks —given at those times when output shows its lowest curve—might justify more thought and experimental research. The words " wisely planned " should be stressed, because the activity should be compensatory and probably slightly remedial in character, and the teacher must take care in her approach to the subject to avoid the comment of the worker that " it's harder work than working."

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* " Industrial Fatigue "—Meyer Brown, M.D., Ph.D. (Consultant to the Industrial Welfare Department of Zürich Insurance Coy.)

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ASLIB

THE ASSOCIATION OF SPECIAL LIBRARIES

There was a time when the scientist or industrialist could carry all the knowledge of his subject under his hat, and keep himself abreast of all the discoveries and inventions that were being made in his chosen field. But no modern scientist or industrialist would pretend to be able to achieve this today. Advances in the technical fields, especially, are so rapid and widespread that no individual, however painstaking, can hope to keep abreast of innovations without some outside help.

The Aslib: This difficulty was keenly felt by the sponsors of a conference held in 1924 at which the Association of Special Libraries and Information Bureaux was formed. The men taking part in this conference were all actively engaged in scientific and industrial research. They all had first-hand acquaintance with the problem of keeping themselves "au fait" with whatever progress was being made in their special subjects. Their deliberations resulted in the formation of a body which should mainly concern itself with maintaining records of the whereabouts and particulars of existing sources of information, and in assisting the members of the association to get in touch with them.

Its Constitution: The constitution of ASLIB is such that it embraces information services in many and diverse fields. It is not merely a technical or scientific organisation. The extent of its activities is reflected in its membership which includes bodies with such widely differing interests as the Aberdeen University Library to the Zinc Development Association.

Inspite of its breadth of interest, however, the Association's activities tend towards technical and industrial matters, since Industry's demand for information is predominant. Manufacturing firms constitute 60% of ASLIB'S membership. The value of ASLIB as an important information centre has been recognised by the Department of Scientific and Industrial Research, Great Britain, which itself has been a member for many years, and which has now undertaken to contribute a substantial annual grant to the funds of the Association.

Its Work: During the twenty years that the Association has been in existence, it has done a great deal of work in furthering its original object of providing accurate, up-to-date information to its members. Among the various activities of the Association the following may be mentioned: (1) an annual conference at which papers on all aspects of organised information services are presented and discussed, and at which personal touch is established between the members; (2) the issuing of a Directory (a 50% discount in price is allowed to members) of sources of specialised information in Great Britain and Northern Ireland; (3) the free issue to members of a quarterly bulletin of information by means of which the Directory is kept up-to-date; (4) advising and assisting members in organising and classifying their own record of such information; and (5) establishing and maintaining a register of expert translators, that is, translators who

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possess not only a mastery of the languages from and into which they translate, but also a grasp of the subject with which they have to deal.

This, in brief, is the work of the ASLIB. The list of subjects dealt with and the range of information are both comprehensive. If the ASLIB is unable to indicate the source of information on any particular subject, it may be taken for granted that such information does not exist anywhere.

The ASLIB Directory: This needs special mention. It is a bulky volume divided into two parts. The first part is arranged alphabetically with 1500 subject headings under which there are references to over 2000 sources of information. The second part of the Directory contains a list of the towns where the special sources of information are situated. This list is also in alphabetical order. A note at the end of each entry indicates the conditions under which access may be had to the particular source. The Directory may be purchased by any member of the public.

The Enquiry Bureaux: More important even than the Directory are the Association's Enquiry Bureaux. All current sources of information on hundreds of specialised subjects are card-indexed here. These Bureaux are at an advantage to collect and arrange all kinds of information on account of the diversity of the Association's membership and the vast aggregate knowledge which is at the disposal of the Association.

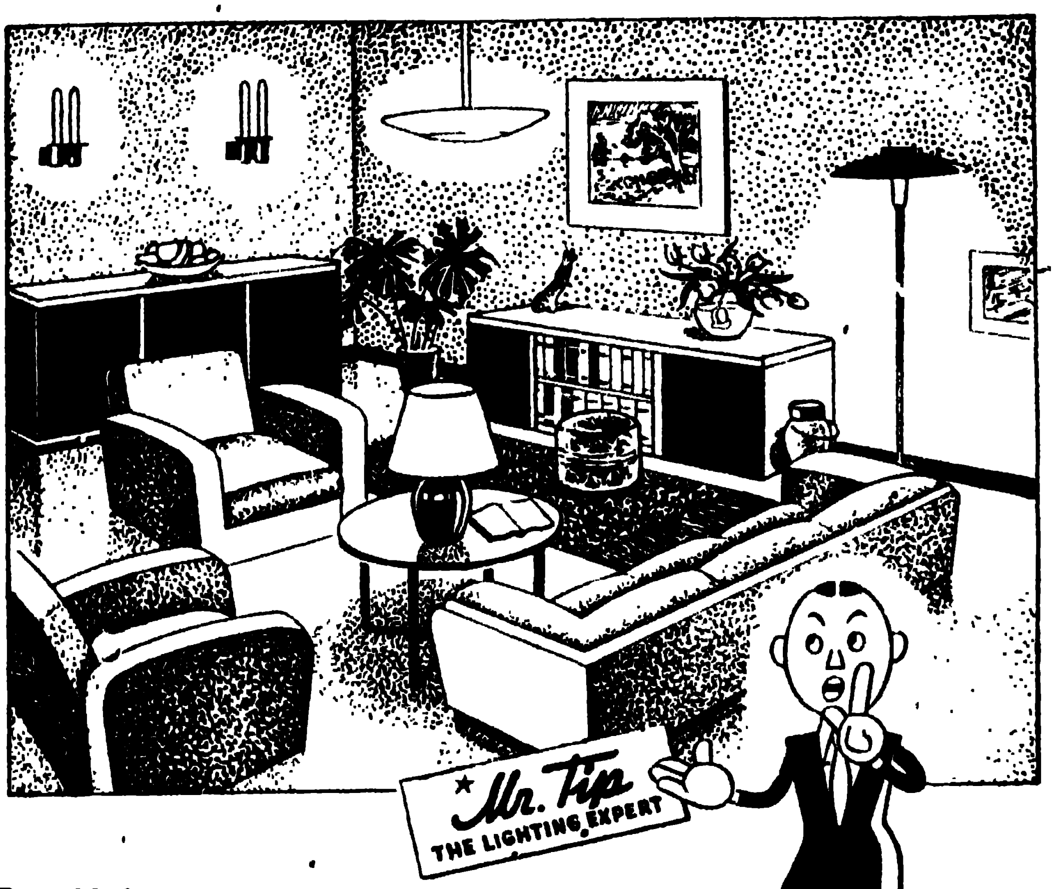
The Translation Service: Apart from the facts already mentioned in this connection, the Association acts as an intermediary and puts clients requiring expert translators in touch with persons who possess the requisite training, ability, and experience. Members of the Association are entitled to this service free; non-members are charged a fee.

ASLIB and India: India is on the threshold of industrial expansion. When the many plans drawn up for the country's industrial progress are put into effect, there will be a nation-wide demand for up-to-date information of a variety of industrial, engineering, and other scientific matters. It would, therefore, be a very sound investment for our many universities and public bodies, as also for large business houses, to be affiliated to the ASLIB. In course of time, we could form a similar Association in this country by collecting and classifying sources of information on matters of special concern to us. The earlier we form the nucleus of such a body, the better ; because accurate, ready, and up-to-date information would undoubtedly accelerate the progress of our industrialisation.

*

U.N.O. METHODS

Mr. Makin, Chairman of the Security Council during its first session, said in a broadcast from Melbourne, recently. "I did not seek to assert authority, but to guide the deliberations on the most helpful and friendly lines. It was never my practice to pull the reins too tightly. I allowed the Council to talk and talk again and again if necessary, and this method succeeded where possibly peremptory action from the chair would have destroyed the prospects of results."



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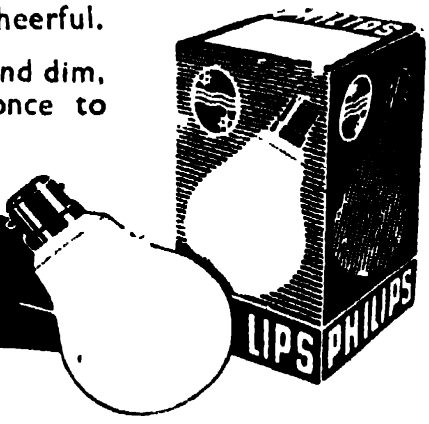

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IS THE HEAT GETTING YOU DOWN?

THE human body is remarkably like an air-cooled engine with a sensitive and efficient cooling system —the skin. The best way to keep cool, therefore, is to help this cooling system in performing its functions efficiently.

When the temperature of the air increases, the blood flows in large quantities in the small blood vessels (the capillaries) close to the body's surface, thus giving off heat easily. The pores of the skin open, perspiration pours out, evaporates, and cools the skin and body.

With the advent of the hot weather, here are a few points on How To Keep The Heat From Getting You Down.

Bathing: It is a mistake to seek relief from heat by plunging into cold water. This may stop perspiration for a time, but it deprives the body of an essential protective mechanism against the effects of over-heating.

Clothing: The best way to keep cool is to wear as few clothes as possible. These should be loosely cut, and made from porous, smooth, light-coloured fabrics. A cloth of a rough texture slows up the movement of air next to the skin which acts as an insulator. A dark-coloured fabric absorbs more heat than cloth of lighter colours. Just as black is the hottest colour to wear in summer, so also white is the coolest colour and should be preferred during the hot weather.

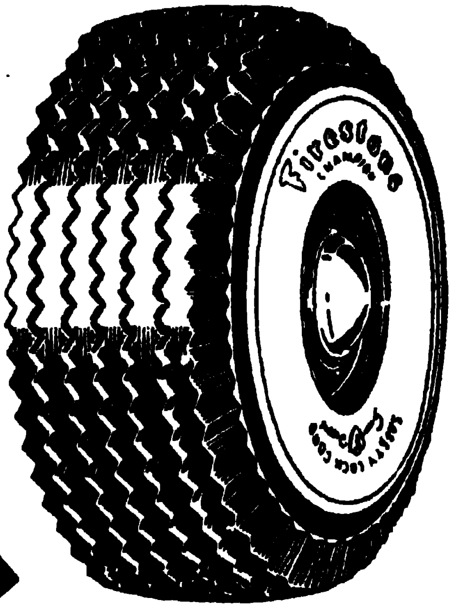
Diet: In the hot weather, the body naturally requires less heat-producing food and, therefore, the consumption of carbohydrates (bread, potatoes, rice, etc.) and fats should be reduced. Preference should be given to proteins which are an energy food, because bodily energy must be kept up to normal.

The summer diet should be composed of foods which contain a large proportion of water, such as fruits and salads. It is important to watch for loss of appetite— known in medical parlance as "anorexia." If this should happen, the appetite should be stimulated in order to maintain normal bodily energy and resistance.

Salt: When the body perspires, it loses a certain amount of mineral salts as well as water. Salt is a very important element in the body, and is required for its efficient physiological functioning. If the salt content of the body is allowed to get too low, it brings about exhaustion and frequently heat-stroke. The salts ejected from the body through perspiration must, therefore, be replaced. Since the body may lose as much as 1¼ ozs. of salt per day, this loss should be made good by an increased intake of salt. This can be taken either in food or in water.

Water: The loss of water through perspiration is considerable. It may amount to as much as 3 quarts a day. This loss is to be made good, and the best way of doing so should be known.

Iced water looks cool, but it does not cool the body. On the other hand, it may be very dangerous, for it cools the internal organs, and may produce stomach cramps. It contracts the blood capillaries under the surface of the skin, and thereby stops perspiration. The proper thing to do is to drink cool (*not iced*) water, or to eat fruits which are high in their water content.



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SALVAGE OPERATIONS OR AFTER THE FIRE

By G. D. Jeavons

Late Senior Training Officer, Bombay Rescue Corps.

IN previous articles we discussed ways and means whereby fires may be prevented. But in spite of all these protections, it seems that outbreaks of fires are inevitable. Because of this, the need for co-operation with the Fire Brigade in combating fires was discussed in my last article. The present contribution is an attempt to inculcate in the public correct practices during salvage operations after the fire has been extinguished.

After the fire has been put out, the Fire Superintendent approaches you with a notebook and pencil. Amongst other things, he will want to know about the insured value of the premises. You would be advised to answer these questions frankly and without reserve; your fire insurance policy does not contain a request for reticence similar to your Third Party Motor Accident Insurance.

You may be approached by a representative of some firm of Fire Damage Assessors and, if it is a good firm, you would be well advised to engage him. When you submit your claim to the Fire Insurance Co. they will send a trained assessor to check it, and if your claim has been prepared by an expert in the terms of your policy, it will save a lot of extra trouble. The fee charged for these services is usually a precentage of the settlement value of your claim, and it is usually well-earned. But this advice is merely offered for your guidance and you are entirely at liberty to please yourself in the matter.

The fire being out you are now confronted with the task of salvage a most difficult job. So far as we are aware, the only city in India that has a trained Salvage Corps is Bombay. As a rule, therefore, you will have to undertake the job yourself with such help as you can get.

Damage does not end with the fire being put out; indeed, unless you take prompt steps, water and weather will add to the destruction of the fire until your machinery and stock-in-trade are ruined, and may even end in the collapse of your premises. Neglect after a fire will result in what Insurance Companies call "Progressive Total Loss".

Salvage is a highly skilled job with very high incidence of risk. All that we can do in the limited space at our disposal is to give you a few ideas to lessen the risk of incidence while saving what can be saved.

Your very first duty is to issue a strict order that no one is to enter the building in an impetuous attempt to learn the fate of some particular interest. It is a sound policy to appoint people to prevent the rash from being disobedient. *A building that has been on fire is as full of booby traps as a village captured from an unscrupulous enemy.*

Next, ensure that the electric supply is completely isolated. With people standing or moving about in wet areas, a leakage of only a few volts may multiply itself into a fatal shock. Gas pipes may be damaged or fractured; ensure, therefore, that the gas supply is really cut off, as the alternative will be an explosion followed by another fire

Before the last fire engine leaves, look for accumulations of water. If there are any basements about and there is water in them, the fire engine will pump it out for you for a small fee fixed by the Municipality If the fire engine is unable to undertake the task, hire a hand pump or bale it out with buckets, taking care to keep the drains open. This water contains a lot of ash and other small debris, and if the drain is choked, the water will spread and add further damage.

Probably the most serious booby trap and one that has resulted in many fatal accidents consists in unsafe floors. *Do not, therefore, let anyone walk on a floor until you are certain that it will not give way*

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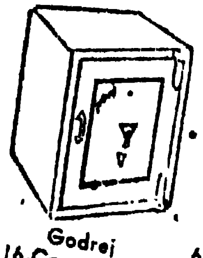

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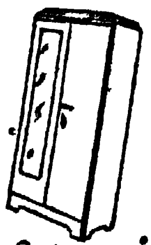

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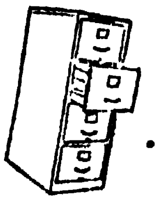

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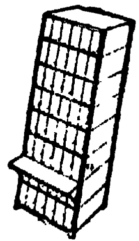

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under the weight. It will not do to certify a floor safe by a superficial glance at it. Such an examination will only reveal surface cracks and mild discolouration, yet such a floor may be as thin as paper. Examine all floors from *underneath.* This will often reveal floorboards to be just charcoal and even steel girders to be distorted until they are actually putting stress where they were intended to support.

Stairways should also be carefully examined. Here again, do not judge from the surface appearance. Check up from the underside; but even after having done so, do not go bounding up the stairs. Place your feet on the extreme sides of the stair treads and do not remove your weight from the lower foot until you have tested that the upper foot can accept it.

You may notice several tons of roof or walls in an unstable condition and these must be either shored up or demolished. We do not recommend that you try to do this work with untrained labour. A building contractor with a trained staff and adequate appliances is in a much better position to carry out the work satisfactorily.

Second only to the menace of weak flooring is the hazard presented by loose bricks or tiles. A precariously ledged brick or tile thrown off by the vibration of a passing lorry or a gust of wind or even a crow may kill a man.

When people set to work in a place where odd debris falls are likely to occur, the correct precaution is to take some light spars and rope and make a light frame with a tarpaulin over it so that it slopes like the roof of a lean-to shed. This will ensure protection at least against falling tiles and other similar hazards. Steps should also be taken to fence off with a rope or a few wooden spars any exposed holes such as lift-wells and unsafe patches of flooring.

If your goods are not secure against trespass, arrange to have them watched. Having taken all these precautions, you are now free to pay attention to the actual salvage operations.

Your machinery is probably the most valuable item. Unless, the building has collapsed, the damage to your machinery is likely to be very low. In any case, have the machinery wiped dry as soon as you can do so safely. Rust soon starts to set in, and it is better prevented than removed. Be careful that no bits of brick or other debris is left between gears or working parts. If there are cutting tools or special appliances, remove these and store them in a safe, dry place.

Having cleaned your machinery thoroughly, the next step is to apply grease to it, preferably with brush, before covering each machine with tarpaulin, taking care not to allow sagging basins which will collect water. It is best to stretch the tarpaulins taut and tie them down. If you do this task thoroughly, your machinery should suffer no further depreciation for a week at least.

Meanwhile, other people can be given the job of sorting over your stock-in-trade and dividing it into 3 groups: 'undamaged,' 'damaged, but repairable,' and 'useless'. Your specialist knowledge of your own business will suggest to you methods in dealing with this stock-in-trade. Remember that the problem of salvage devolves on the insurance company; so ask for their instructions as to the disposal of what you consider to be "useless." If you follow all these instructions scrupulously 3 or 4 hours after the fire, you will have stopped the spread of damage.

With the permission of the fireman left in charge, open doors and windows and let fresh air carry away the smoke and stench from the gutted building; begin to mop up the water and sweep away dirt. Either mop up the water which threatens to do further damage to your goods or else cover up or remove the goods.

Do not make stacks of your goods up to the height of your ceiling. Small open stacks are easier to count and inspect. They also facilitate the free movement of air and thus assist in the process of drying and saving your goods from further damage.

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To check up whether you have dealt correctly with your stock-in-trade, you have to ask yourself one simple question: "If nothing more was done for a week, would there be any additional depreciation?"

You can now turn attention to the most unpleasant task before you, namely, clearing up of the debris at the main seat of the fire. In doing this, it is important not only to use right methods but to have a correct appreciation of your objective.

Do not set about a task in a slap-dash fashion. This debris is valuable evidence so far as you are concerned. You should, therefore, have it sorted over with care. You have suffered a loss and are entitled to compensation for that loss; but the fire insurance company are entitled to check up on your claim. A few buttons and buckles may be evidence of the quantity and quality of burnt clothes; a few half-melted brass-handles and locks may prove the loss of quite a lot of valuable furniture; a few pieces of lagging iron and a pile of white ash may prove the loss of tons of wrapping paper.

I was appointed as an arbitrator in a case of fire which gutted a printing press. The chief item in the claim was for a huge sum because several tons of printer's type had been utterly lost. The insurance company's assessor quite properly reported he saw no supporting evidence of the alleged big loss. I spent some days having huge masses of wood ash carefully sorted over and extracted from it rough splashes of useless metal described as lead, but this actually turned out to be type metal—a mixture of tin, antimony and lead. The scale proved our salvage to be in reasonable harmony with the claim, and when I had to make the Award against the Fire Insurance Company, they not only accepted it but were careful to make it perfectly clear that they were satisfied and in full agreement with the Award. Prompt payment was of course made.

Having accepted the principle of dealing with the debris as evidence, there are certain correct methods of handling it. Broken glass, rusty nails, splinters and fire roughed surfaces are some of the hazards to be guarded against. Those required to handle this debris should be given leather gloves—preferably old motoring gloves. Never attempt to pull anything out of a pile of debris; lift each item carefully off the pile. Having done this, do not dispose of it according to its intrinsic value, for, though it may be perfectly useless, its existence may help you in presenting your Fire Damage claim.

All the procedures and practices recommended in this article will be of little avail unless they are practised in the course of periodical fire drills. These drills should be enthusiastically and thoroughly carried out until the various elements involved in salvage operations become an efficient, systematized procedure.

Brain teasers

1 A dog and a rabbit, four thousand feet apart, catch sight of each other simultaneously. The rabbit instantly starts to run at right angles to the line of sight at a speed of forty feet per second while the dog, at the same instant, starts running toward the rabbit at a speed of sixty feet per second.

HOW LONG DOES IT TAKE THE DOG TO CATCH THE RABBIT?

2 A cone shaped hill is two hundred feet high and one hundred feet in diameter at the base. A winding spiral path runs from base to tip with a constant slope of five per cent.

WHAT IS THE LENGTH OF THE PATHWAY?

3 A man sells a cow and a horse for $120. He sells the horse for $100 more than the cow.

WHAT DID HE SELL EACH FOR?

4 I am now twice as old as you were when I was your age. When you are as old as I now am, the sum of our ages will be 100.

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PSYCHOLOGY OF WORKSHOP MANAGEMENT

A RECENT article in *Machine Shop Magazine* by Mr. H. W. Gee attempts an interesting analysis of the successful Works Manager.

The successful Works Manager, according to the author, is made up of 10% technical ability and 90% personal ability. His personal ability is further sub-divided into the following four qualities: a) Leadership, b) Reaction in an emergency, c) Administration ability, and d) Social activities, that is, relationships with his colleagues and subordinates.

Taking each of these qualities in rotation, the successful Works Manager is, first of all, a leader. In other words, he achieves his results through leadership and not drivership. He makes the major decisions, and takes responsibility for these decisions. Once the broad outlines of a problem have been chalked out, he allows his subordinates the fullest scope for displaying initiative in their work. He is liberal with praise when a good job has been done; for he realises that praise, applied with discretion, is the finest industrial lubricant. Too much will clog the works, but credit properly apportioned is always appreciated and pays handsome dividends. Impartiality is an integral part of his personality. He treats his men squarely, and they reciprocate in like manner.

With regard to his behaviour in an emergency, the successful Works Manager displays self-control of a high order. A fatality, a domestic strife, or petty personal troubles which have repercussions in the workshop need to be dealt with calmly and sympathetically. Emergencies call for quick decisions and quick orders, but these orders must be given calmly and without flurry.

As an administrator, the successful Works Manager is always on the alert to avoid friction between sections or departments or individuals. He encourages initiative and welcomes suggestions. If he has a good man working under him, he lets his superiors know about him and his good work. This goes to his credit especially if he has been responsible for training him.

In his social activities within the workshop, the successful Works Manager extends friendliness and politeness to every member of his staff. A cheerful "Good Morning" and a smile cost nothing but bring good results.

But while he is friendly with his men, he never encourages the sort of familiarity which is apt to breed disrespect or indiscipline.

The successful Works Manager knows that it pays to take a personal interest in the welfare of his staff. If one of his men has been away sick or if there is sickness at home, a sympathetic enquiry and an expression of personal interest are always appreciated. But while being friendly and sympathetic, there should be no favourites.

In short, the conduct of the successful Works Manager is governed so as to retain the respect and goodwill of each individual member of his staff. It is thus that harmonious team-work is secured—the type of team-work on which the efficiency of an organisation rests.

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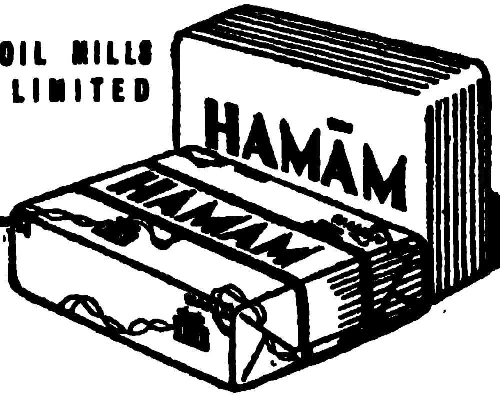

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Kept her home very tidy, it's true.
But her pride took a fall
On a rug in the hall

Any subscriber to Efficiency News can enter. All you have to do is to supply the missing last line that rhymes with "Lou" and "true" and deals with safety. A prize of Rs. 5 will be awarded to the best entry. The decision of the Editor will be final. Entries, cut from the magazine with the missing line filled in, should reach the Editor, Efficiency News, Electric House, Fort, Bombay, not later than 20th May, 1946. Maybe the list of hazards below will help you.

Cluttered Stairs
Frayed electric cords
Curtains near flame
Climbing on chairs and boxes
Poisons within children's reach
Sooty furnace and flue
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Bathtub without handhold
Toys where they can cause stumbles
Unscreened fireplace
Small rugs not anchored or skidproofed.

You may or may not care to use these hazards as limerick hints. But DO NOT allow such hazards to exist.

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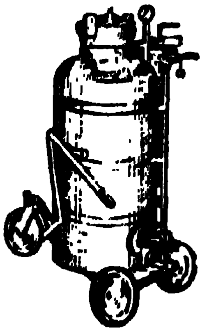
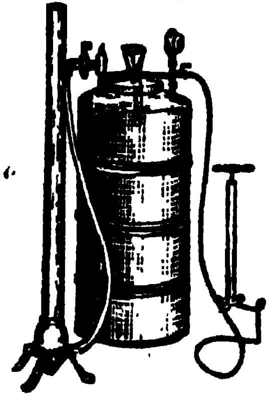


Double Ended Spanners of Tempered steel in clips of six, range 5/16 ins. to 7/8 ins. (American S A. E. Sizes.)



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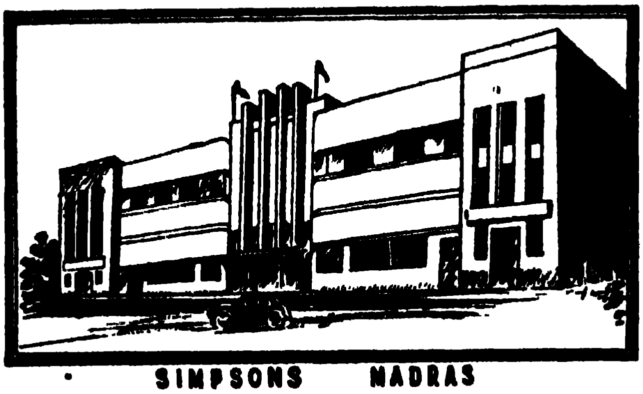

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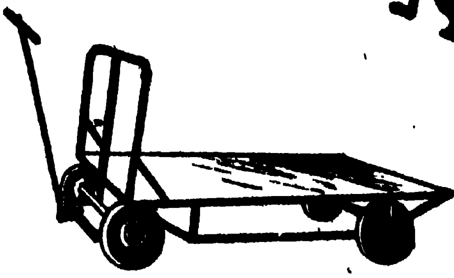

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EFFICIENCY CLUB OF INDIA

A Resume of Some Recent Lectures

AMONG the many activities persued by the Efficiency Club of India during the first six months of its existence, special mention must be made of the lectures delivered at its meetings held in Bombay on the second Wednesday and fourth Thursday of each month.

The first lecture in the series was delivered by Mr. K. M. Khareghat on "Daylight Saving." The speaker dealt with the various "times" observed under different systems and their relation to daylight saving. The talk was particularly topical in view of the controversy then raging as to whether the Government should continue, modify or altogether abandon the new time introduced during the recent war.

The second talk was given by Mr. F. P. Fernandes who spoke on "Methods of Promotion." The speaker contended that seniority could not be made the sole criterion in granting promotions, as frequently urged by senior employees. If this were done, the control of an organisation would ultimately pass into the hands of men with no better "qualification" than length of service. The use of Merit Rating forms in granting promotions was discussed at length with many illustrations.

In the course of a talk on "Information Sources," Mr. J. R. Randeria dwelt on the necessity for business and industrial concerns to have access to accurate, up-to-date and reliable information on a variety of subjects connected with the efficient functioning of their businesses. Apart from the "Who's Who" and other Trade Directories, Mr. Randeria referred to the Engineering Index Inc., and the Association of Special Libraries which are known the world over for the excellent information services provided by them.

The next lecture was delivered by Mr. A. P. Pereira under the provocative title "Where Businessmen Blunder." He pointed out that very many businessmen held the idea that applicants with the highest available qualifications should be recruited, irrespective of the requirements of the jobs to be filled. This invariably led to dissatisfaction of employer as well as employee. The speaker pointed out that intelligence tests and vocational guidance should be used at least by the larger organisations in this country to match men to the posts to be filled.

Mr. N. C. Carr spoke on "Efficiency in Advertising." Tracing the history of advertising from the Stone Age, the speaker dealt with the main varieties of modern advertising. He stressed the importance of commercial art because on the development of this art depended the progress of commercial and industrial organisations.

Speaking on "Importance of Saving," Mr. Jamal, well-known in life insurance circles, evoked considerable interest by enumerating and discussing the best possible methods of saving. He stressed that thrift should be cultivated as a habit, and pointed out that life insurance with its system of regular premium payments was a step in the right direction.

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INTRODUCING THE NEW EMPLOYEE

A NEW employee is apt to feel lost (if not somewhat scared) on the first day or two of his employment. This is especially true in the case of large organisations. Most of us have experienced these uncomfortable emotions. " Whether it is because of the unfamiliar environment, the strange faces, the unaccustomed duties, or a combination of these and, possibly, other factors, bewildered nervousness and a feeling of helplessness generally mark the new worker's first day on the job."

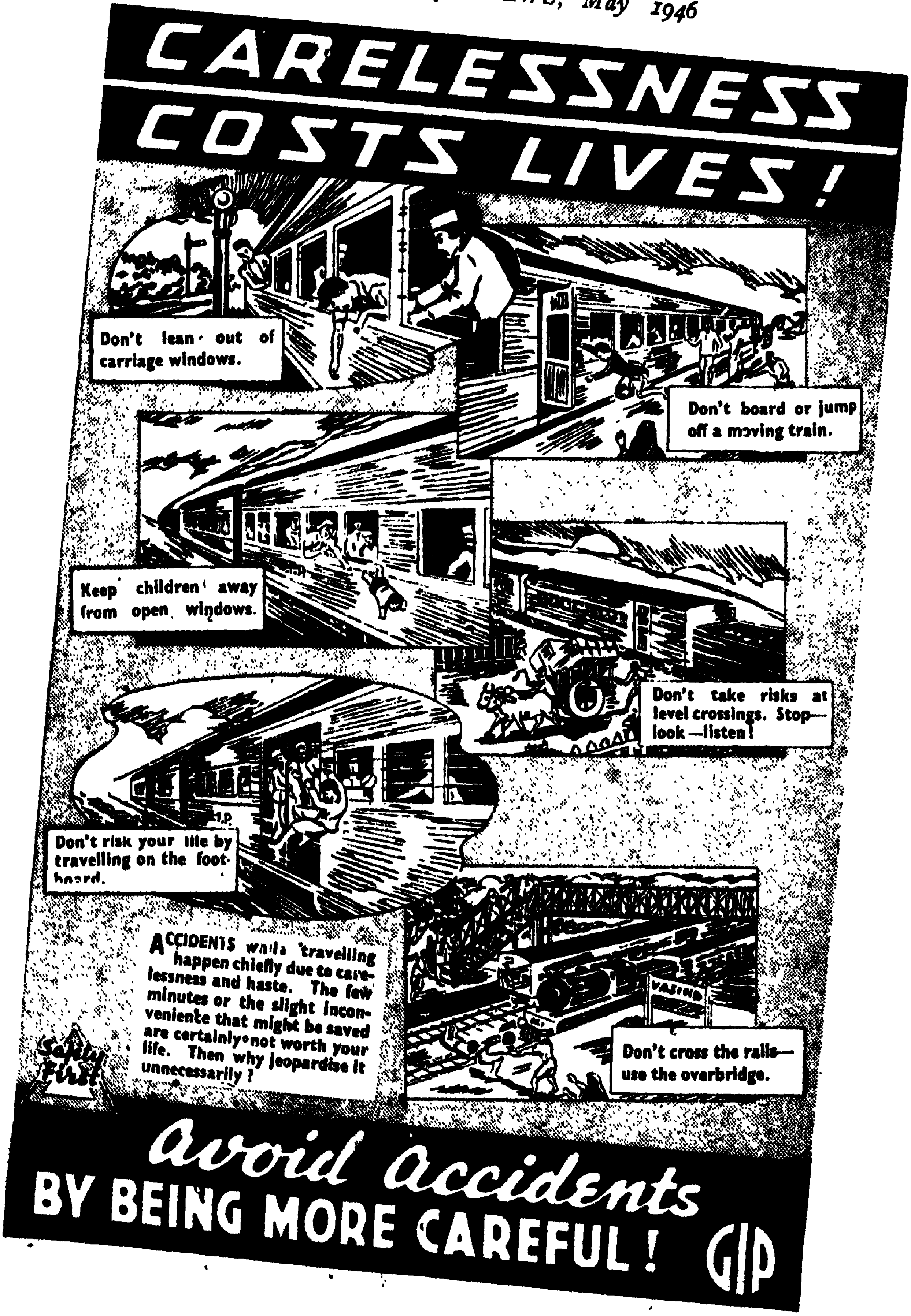
Watkins and Dodd, in their *Management of Labour Relations*, express the same view: " There is an unwelcome strangeness about a new job and a new organisation." Yet it is a fairly common practice to send the new employee to report to so-and-so department for work. No guide is provided, and little guidance is given. The eager-to-please but bewildered recruit is left to shift for himself.

Modern personnel management has no patience with these haphazard and heartless ways. It is considered "a definite responsibility that the new worker be given a cordial and sincere reception." The Personnel Officer starts by giving the recruit a copy of the firm's policies, rules, and working conditions, usually set out in an attractive Employee Manual. This, may be read by the recruit either at once or at his leisure.

In any case, the Personnel Officer then has a friendly chat with the new employee, welcoming him to the organisation, explaining to him the highlights of the firm's policies and traditions and, in brief, "selling" the firm to him. This is important, for the recruit's efficiency and enthusiasm depend largely on the pride he takes in belonging to the firm which has just engaged him.

The recruit is next informed about a variety of things which concern him: the place, time, and method of pay; details about allowances, overtime, loans, advances, and other matters regarding money; working hours, clocking and time-card arrangements, entrances and exits; promotions, transfers, and educational facilities; canteen, toilet, club room, library, and sports facilities; procedure for grievance adjustment; suggestion scheme and awards; disciplinary action and discharge; first-aid and medical facilities; notice boards and the House Journal. These are the main matters on which a new employee would appreciate enlightenment, even if he does not ask for it. What's more, the recruit must be convinced, at the outset, that the Personnel Department exists to serve him, and that he is welcome to approach it for guidance at any later date.

The recruit is next explained the layout of the firm (most conveniently done with the help of a geneological tree), and then taken round the organisation and the geography of the place is explained to him—particularly with regard to the canteen, toilet room, club room and other amenities already mentioned. The tour of the premises should end in the department in which the employee will start work. Here he is introduced to his Chief and at least a couple of colleagues with whom he will start learning his work. If there happens to be a special training section, the recruit will, of course, be introduced also to the head of that section. Associated departments and department heads may also be included in the introduction.



Don't lean out of carriage windows.

Don't board or jump off a moving train.

Keep children away from open windows.

Don't take risks at level crossings. Stop—look—listen!

Don't risk your life by travelling on the foot-board.

ACCIDENTS while travelling happen chiefly due to carelessness and haste. The few minutes or the slight inconvenience that might be saved are certainly not worth your life. Then why jeopardise it unnecessarily?

Don't cross the rails—use the overbridge.

After this the foreman or other supervisor assumes responsibility for handling the recruit—*but not entirely*; for the Personnel Department has to 'follow up' the introduction: to watch the employee's reactions to his work and other activities, and to ensure that he is properly placed.

In effecting the introduction, it is essential not to go to extremes. Avoid patronizing; avoid pampering. Treat the new employee in a sincere, straightforward, business-like manner. "Patronize him, and he will serve grudgingly. Pamper him, and he will be spoiled. Treat him properly, and he will keep his balance."

Needless to say the introducer must have a thorough knowledge of his organisation, its policies, and products. More than that he must have sympathy to understand the feelings of the new employee and to help him. Either the Personnel Officer himself or a trained assistant is best suited for this work.

This introduction is not a matter of mere benevolence. It is as important to the employer as it is to the employee. Starting a recruit right is half the battle, because first impressions last long. To bid him welcome and to enlist his enthusiasm at the outset is a sound investment for the future. The dividends are loyalty, efficiency and a low labour turnover.

How's Your Driving?

Check List of Twelve Common Driving Faults

CONSENSUS of opinion among those most qualified to know the skills and shortcomings of motorists puts the following 12 common driving faults at the head of a much longer list. Check your own driving performance against these faults for your own safety and for the safety of other users of the road. The list is not necessarily in order of importance.

I. DRIVING TOO FAST FOR CONDITIONS. **Density of traffic volume, pedestrians, frequency of intersections, road surfaces, and sight distance are controlling factors.**

II. POOR JUDGMENT IN PASSING OR FOLLOWING. **Not allowing sufficient interval between your car and the one ahead. Passing on curve or hill.**

III. FAILURE TO SIGNAL. **Unpredictable changes in course or speed cancel the other fellow's chance of avoiding you.**

IV INATTENTION. **Driving is a full-time job.**

V. IMPROPER TURNING. **Making left turns from the right lane and *vice versa*.**

VI. POOR USE OF HEADLIGHTS. **Overdriving illuminated area and failing to use lower beam when meeting cars.**

VII. LACK OF COURTESY. **Failing to yield right-of-way, particularly to pedestrians at intersections.**

VIII. POORLY MAINTAINED VEHICLE. **Improper adjustment of brakes, lights and other safety equipment.**

IX. WEAVING IN TRAFFIC. **Driving on wrong side of the road or in the wrong lane. Unnecessary changes in direction.**

X. DRIVING "BELOW PAR." **Fatigue, illness, alcohol.**

XI. FALSE CONFIDENCE. **Belief in the ability to "Stop on a Dime."**

XII. HORN DRIVING. **Too much noise and too little skill.**

TOWN PLANNING AND TRANSPORT

The National Road Transport Federation has issued a Memorandum, prepared by the Highways Committee of the Federation, for the guidance of those concerned in examining Town Planning Schemes on behalf of road vehicle operators. A number of points which need to be carefully considered in this respect have been conveniently listed and briefly discussed.—Ed.

General Principles

1. Every plan should give easy access to, and egress from, all important points of delivery or despatch, with the minimum of obstruction or delay, and the maximum of safety and uninterrupted running.

Built up Areas

2. Road widths in the town should be carefully examined. Wider roads are necessary where side parking cannot be avoided.

3. Communication roads should be provided behind all shopping sites to facilitate the handling of goods in the rear of shops.

4. There should be a number of parking places close to shopping sites, with several pedestrian and other approaches to the shopping streets. In larger towns or cities mul-storey garages or underground parks should be envisaged. There should be adequate parking facilities for commercial vehicles.

5. In conjunction with the Police Commissioners, existing accident-prone "black spots" should be examined and steps taken to eradicate them.

6. Bad road junctions are common and are often the cause of bottlenecks and delay; the plan should clearly show that these will not occur.

7. Turning circles are often cramped, as are the outlets from side roads; due attention should be paid to this.

Trunk Roads, etc.

8. By-passes should be obvious of purpose, should increase the route mileage as little as possible, and should be easily accessible by straight through-routes from the town itself.

9. Main roads should usually be dual carriageways, three lane roads being avoided.

10. Lay-byes should be frequent, every quarter of a mile on each side of the road.

Round-abouts

11. Round-abouts should be of such radius to permit a vehicle and trailer to negotiate it with ease.

12. Where possible round-abouts should be free of all buildings likely to attract waiting vehicles. In fact, they would be best kept free of all buildings. If shops are adjacent, then it is essential that parking facilities are provided close by.

13. It is desirable that the number of roads converging at a round-about should be kept as few as possible. In no case should a secondary road enter a main road in close proximity to a round-about.

Ring Roads

14. Ring roads now usually form part of every scheme; but the circular ring road is frequently the longest way round, and traffic will (unless definite steps to prevent it are taken) take the shortest route. The ring road to achieve its object should :—

(*a*) provide rapid and easy access for the main traffic flow to the principal commercial and industrial areas ;

(*b*) provide the shortest route between given points in the planned area.

15. It is not always ideal for through traffic to have to use a ring road. Consideration might be given to elevated and depressed roads to deal with this class of traffic.

Road Crossings

16. Side entrance roads should be staggered and not immediately opposite one another, unless there is a round-about. At busy round-abouts some provision should be made for pedestrians.

Bridges

17. The strength of bridges in the area is of extreme importance and all roads leading to industrial areas should have bridges fit to bear the heaviest loads now envisaged ; in some cases one through road should be capable of taking "indivisible loads" up to 300 tons. In regard to bridges, width, head-room and strength are all important aspects.

Estimates of Traffic

18. Good road planning should be based on traffic statistics and a census of traffic direction. As improved roads attract traffic from other roads, the statistics should be carefully examined so that an estimate of potential increase from this cause may be made in order that the improved road may be able to meet the increased traffic demand.

19. The maximum or peak load of a road is the deciding factor whether it occurs daily or at week-ends, when the duration of the peak is more than one hour.

Future Improvements in Vehicles

20. Plans should take into account the wider, longer and heavier vehicles that are required on economic grounds by industry ; one of the main objections raised to such improved vehicles is the insufficiency of existing roads. The more the transport industry can secure improved roads, the more effective will be its representations for improved vehicles.

New Housing Sites

21. New housing areas should have one through road, to allow proper development of a bus service and efficient operation of delivery services. When shuttle bus services are the only possible method, the best service may be denied to the inhabitants owing to costs.

SUPERVISORS' DISCUSSION GROUPS

An interesting London experiment that has proved its worth in Fostering better Understanding of the Management Aspects of Foremanship and Competence in Supervision

ONE of the significant war-time developments in Industry has been the better realisation of the importance of efficient supervision in the operation of sound Management. War conditions have emphasised the supervisor's part in the smooth working of control and administrative procedures, and in the maintenance of sound relations among personnel in the various departments.

Industrial spokesmen, as well as many official ones, have recently paid tribute to the need for a high standard of ability and competence for effective discharge of the foreman's work. To fulfil his responsibilities, the foreman must have a good general knowledge of organisation of production, control methods and supervision.

To meet this need for additional knowledge of what is entailed in a supervisor's responsibilities the Ministry of Labour and National Service, in collaboration with the Board of Education, inaugurated the Foremanship Lecture Course. It is by now well known to industrial executives all over the country, and has been attended by some thousands of aspirants, foremen, and supervisors.

Having completed their studies at these official courses many foremen felt that they had acquired a sound addition of knowledge; but they also felt the need for some organised means of continuing. They wanted not only to round off their new knowledge, but also to exchange ideas and experience about what they had learned, with particular reference to the daily problems they met in their work. In short, the course itself created a need of something further; and this complementary development had necessarily to be of an informal character to enable the foreman to make his personal contribution related to his own everyday experience.

The need was met on the part of the London Centre of the Institute of Industrial Administration by the formation of two experimental "Supervisors' Discussion Centres or Groups" in outlying districts of the London Area. They were first begun nearly two years ago and developed on an autonomous, informal basis, with a nominal qualification for membership to which any foreman or similar supervisory grade could be easily admitted.

Little has been heard of them outside their own localities because of a strong desire that the Centres should prove their worth in practice before they attracted publicity. But in their own districts they became well-known and keenly supported.

They have now proved their real value and have in consequence increased in number around London, with others coming into existence in the near future. Moreover, they are attracting considerable attention simply by giving foreman the opportunity to exchange ideas and experience and to discuss common problems with their counterparts from other firms.

The Centres are essentially concerned with supervision, as district from the technicalities of operations and processes (except where supervisory problems are involved, as for instance in operator training).

The primary aims of the Centres can be summed up in broad terms as :—

(*a*) The interchange of experience in supervision ;

(*b*) Mutual collaboration in finding solutions to problems of supervision ;

(*c*) Keeping abreast of developments in the practice of sound supervision ;

(*d*) Broadening the supervisors' out look and field of contacts ;

(*e*) Putting supervisors into closer contact with technologists or specialist staff (rate-fixers, planning staff, managers, etc.), whose activities have an important bearing on supervision.

As already indicated, each Centre is an informal and autonomous group governed by an elected Executive Committee and Honorary Officers. A form of membership is adopted, with a nominal subscription, to enable the Centres to meet indispensable clerical expenses. The Centres are organised on a district basis.

More recently it became necessary, because of the growth of the Centres, to establish a Co-ordinating Committee as a means of ensuring balanced development in different parts of the London area; and also as a channel through which the experience of the existing Centres could be given to those newly formed or about to come into existence. The initiative and management of the Centre is still left to the Local Committees ; the Co-ordinating Committee is an advisory, consolidating body concerned only with policy and development rather than with activities.

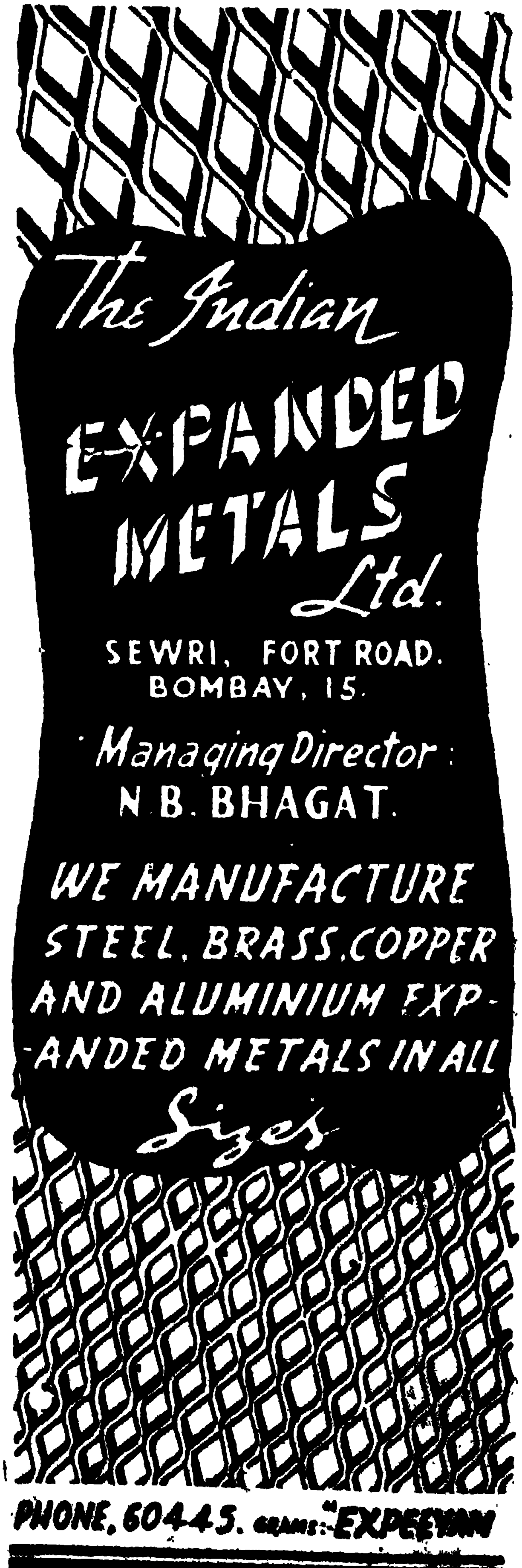
It comprises accredited delegates from the local Executive Committees, together with two accredited representatives of the London Council of the Institute of Industrial Administration, so that the advice and guidance of a more experienced body can be made available to the newer movement. But neither the Institute nor its London Council takes any further share in the administration or formulation of policy and development.

The Centres have neither political nor protective significance and are, therefore, complementary to Trade Unions and Mutual Benefit Societies catering for the supervisory of industry. The Centres' aim is educational solely. They have been developed so far as a contribution to the country's war-time needs but it is unquestionable that they have further value also to the strengthening of industrial management in post-war times ; it is, therefore, hoped that they will continue to be a permanent feature of the training and development facilities for foremen.

Finally, there seems no reason at all why this scheme of Supervisors' Discussion Groups should not be tried out in India. The experience of Britain has proved that competence in supervision is amongst the soundest of the foundations upon which effective management can rest.

Solution to brain teasers

1. Two minutes.
2. 4004. 99 feet.
3. Horse $110, cow $10.
4. 33 1/3 and 44 4/9 years.



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The Technique of Management

There is a move in England to establish a British Institute of Management for the following purposes:

1. To provide a centre for the study of Management.
2. To carry out research and disseminate information on the subject of Management.
3. To work in close co-operation with those existing bodies which are effective in their own specialist fields, and,
4. Generally, to take all possible steps to assist in raising the standards of Management practice in the country.

This move is to be warmly welcomed. In the past, there has been a widespread tendency to think of efficiency exclusively in terms of Plant and Equipment. The natural result of this has been that the vital technique of management has been ignored. With the growth of our economic activities, however, it is being realised to a growing extent that the efficiency of an enterprise depends primarily on the efficiency of its management. This realisation is responsible for the modern tendency to study and develop management as a specialised industrial function.

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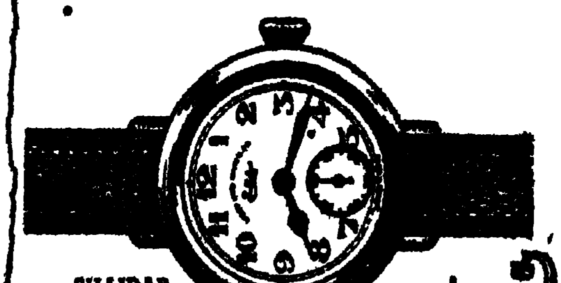

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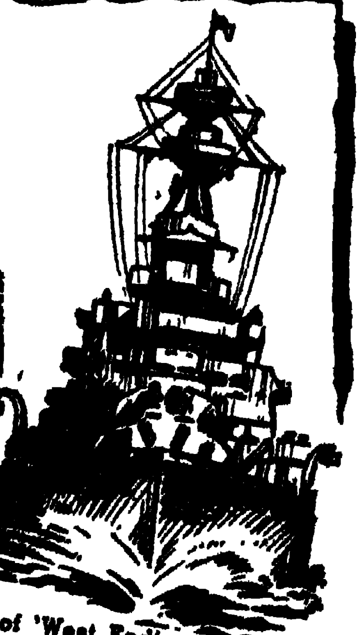

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EFFICIENCY NEWS

Vol. XIII. No. 6 [illegible] 1946 Price An. [illegible]

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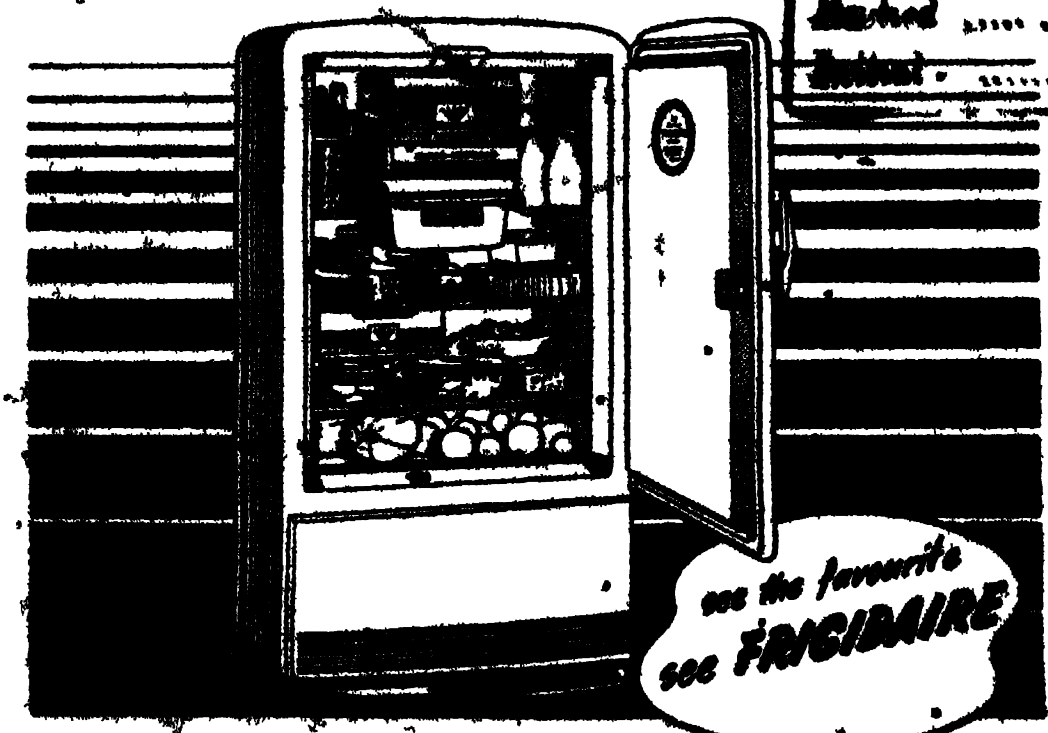

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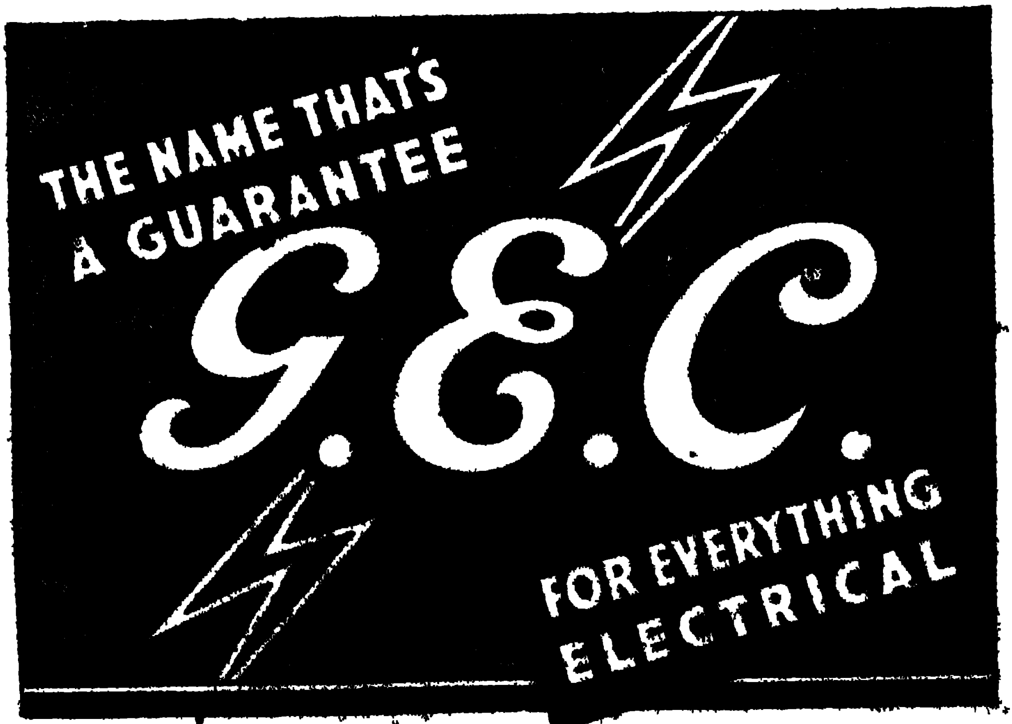

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EFFICIENCY NEWS

Vol. XIII. No. 6. JUNE 1946

ENHANCING INDIA'S INDUSTRIAL EFFICIENCY

INDIA has started to launch her many plans for the country's industrial development. This is the time, therefore, to take careful stock of the steps being taken the world over for achieving maximum output. Once the days of scarcity end and goods are again freely available, there will be competition as never before. Survival in this competition will demand the most efficient methods of production and the highest standards of management.

With a view to enhancing Britain's industrial efficiency, that country has already taken a number of far-reaching steps.

Sir Stafford Cripps, President of the Board of Trade, has instituted a number of Working Panels[*] to secure maximum co-operation between employers and employees.

It is proposed to provide expert advice, free of cost, to assist managements on factory layout, supply of materials, stores organisation, production planning, methods of inspection, and other industrial processes. To carry out this scheme, experts will be added to each Regional Production Board, and the service provided will be similar to that which was formerly made available through the Supply Department to firms engaged in war production in the U.K.

It is also proposed to institute a Central Institute of Management. The objects of this Institute will be to raise the standards of industrial administration throughout Britain, to help create in industry and commerce a reservoir of efficient managers, and to stimulate a lively appreciation of the importance of the management function at all levels of industrial organisation.

India urgently needs similar facilities of her own. Management still remains to be recognised amongst us as a highly specialized profession; research facilities are severely limited; labour conditions in the country, as revealed in the first Reports issued by the Rege Committee, call for drastic treatment; and employer-employee relations continue for the most part to be in an unsatisfactory state.

While all these problems need to be solved without delay, we would call special attention to the urgent need for providing expert advice to industrialists on certain basic problems which have a direct bearing on our industrial efficiency. We have already indicated what is being done in this direction in Britain. With the talent available in this country, similar services could easily be made available here. The fact that there are a variety of industries in this country presents no special problem, for most industries have to face the same fundamental issues.

We need not wait for Government to give a lead in the matter. Each industry should take the initiative and set up an advisory panel for itself. Industrialists would thus secure expert advice on all problems relating to the productive efficiency of their organisations. This, in turn, would accelerate the industrial progress of the country.

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[*] *See What's Behind The Working Parties?—Page* 185.

WHAT WOULD YOU DO IN AN ACCIDENT?

WHEN an accident occurs—it does not matter whether in a factory, home or street—the following vital questions arise :

1. What is wrong with the victim? Is it a case that needs immediate surgical attention?
2. Where is a qualified first-aider available?
3. Where is the nearest hospital equipped to deal with hospital cases?
4. Where can an ambulance be obtained?

Frequently a trained first-aider is not readily available and well-meaning citizens eagerly render help. The victim is usually placed in a conveyance and taken to a hospital —possibly one not equipped to deal with accident casualties. Admission in such cases is refused and the unfortunate victim goes on tour until a suitable hospital is found. Had the citizen asked a policeman, he would have been told the nearest hospital where accidents can be treated, and the correct police station where the accident must be reported.

Ignorance in these matters, or negligence in making proper enquiries, are both equally reprehensible; for the victim may be suffering from severe hæmorrhage, fracture or shock, and mishandling or delay may well prejudice his chances of recovery. It is most important, therefore, to secure correct treatment for accident victims as speedily as possible.

Every town and district needs a first class organisation to deal with these emergencies. If one is already available, it should be whole-heartedly supported with money and service. If one is not available, it should be set up.

In case you should witness an accident, the following analysis is offered to help you render prompt and effective service. The first things to do are :—

1. If the victim is in immediate danger —for example, if he is lying in a traffic stream,—he should be removed immediately to a place of safety.
2. Bleeding, especially arterial, must be attended to at once.
3. If he has a fractured limb—especially a lower limb—it should be splinted. The Thomas splint is suggested for this purpose as it has the advantage of placing the parts in their correct position and slightly extended so that the broken ends of the bone do not overlap.
4. If he has a fracture of the spine, he must be most carefully transferred to a flat and unbending stretcher in a prone or supine position according to where the injury is.

The above suggestions should be carried out by a qualified first-aider.

The victim should be taken to a hospital as quickly as possible—but to one which is adequately equipped to deal with such cases.

In order to carry out the above procedure effectively, the following organisation is necessary :

1. An adequate supply of trained first-aiders must be available at all times at first-aid stations, the latter being well distributed over the area. The St. John's Ambulance Association have made themselves responsible for the training of first-aiders and have instituted a number of divisions to render such aid.
2. A team of motor ambulances should be available at all times at first-aid stations.
3. Publicity is essential to inform and keep the public constantly reminded of how to get this skilled attention.
4. A well distributed system of hospitals, equipped for the purpose of dealing with accidents, should be provided.
5. Since money is needed to maintain this organisation, provision should be made for adequate funds to provide for all these services.

MANAGEMENT-SUPERVISORY RELATIONS

IN order to assist the foreman in fulfilling his responsibilities and duties most efficiently, it is essential to place management-supervisory relations on a sound basis. The National Association of Manufacturers, U.S.A., has formulated certain broad principles on this subject for the guidance of management.

It goes without saying, of course, that management-supervisory relations are a two-way affair. Managerial status cannot be bestowed on foremen: it must be *earned*. Recognition and prestige are the fruits of personal merit. Each foreman must secure these through his efficiency, loyalty, sense of responsibility, and leadership. Lacking these qualities, he cannot rightly expect the support of management for his decisions and actions.

It is also significant that the suggestions of the Association of American Manufacturers, summarised below, are preceded by a recommended course of extensive training in foremanship.

Recognition: All persons who in practice represent executive management in dealing with manual employees should be considered and treated as part of the Supervisory Management. This should be done in such a manner that their relations to management will be clearly apparent throughout the company. Management should build up the prestige of the foreman and his job so that he will be regarded as representative of the management by the rank-and-file workers.

Compensation: Foreman should be paid on a salaried basis and be accorded the same privileges as to vacations, leave, and other benefits as are provided for other salaried employees. Further, the foreman should receive a fair differential remuneration above the compensation of those whose work he directs and supervises.

Authority: In the performance of their jobs, foremen require authority consistent with their responsibility. It is desirable that each foreman should have a clear realisation of his duties and responsibilities and the extent to which he may exercise authority.

This objective may be achieved by the division of the foreman's responsibilities and functions into these three classes: (*a*) those functions on which he may exercise full authority without consultation with his superior; (*b*) those functions on which he may exercise authority but is required to report the action taken to his superior; and (*c*) those functions on which he may not exercise full authority, but may instead make a recommendation for action which must receive his superior's approval before being put into effect.

The foreman must have the right to approve applicants for employment whose work he must supervise. He should also have the right to advocate discharge of employees. Lastly, he should be held responsible for the maintenance of satisfactory employee relations in the group he supervises.

The foreman should normally be the first contact for workers who have grievances they wish to discuss.

If it is necessary for executive management to reverse the decision of a foreman, this should, wherever possible, be done by encouraging

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the foreman to make the reversal himself, thus preserving his prestige. Otherwise, if the foreman's authority in grievance matters is not upheld, he will be unable to function as a direct representative of management.

Personal Practices and Foremen: Executive management should provide proper channels for the adequate presentation, consideration and judgment of individual problems of any member of the supervisory force.

Foremen should be carefully selected and their positions made as secure as is consistent with the general welfare of the company. They should receive preferential treatment when it is necessary to reduce the total working force.

Seniority rules and practices should not govern the selection for supervisory positions. The foreman should be excluded, in his position as foreman, from any seniority rules or practices affecting the general working force.

Contact and Communications: Provisions should be made to bring foremen in contact with top management as often as possible on formal and informal basis.

Foremen should be informed promptly by executive management of all important discussions with employee groups and representatives.

Executive management should seek the observations and suggestions of foremen upon production, personnel, and operating problems.

Foremen should be given notice as far in advance as possible of decisions by executive management which affect employment and production problems.

As a part of supervisory management, foremen should be kept informed by executive management on such problems as labour relations, company policies, public relations, and other general subjects affecting the company.

Foremen and Morale: Foremen are the bridge between management and employees. They should transmit management policies and objectives to the rank-and-file worker, and similarly should transmit employees' thinking and problems to management. It follows, therefore, that the foreman must have the opportunity of acquiring a thorough understanding of management and developing confidence therein so that he in turn may exercise the leadership essential for the fulfilment of his duties as (*a*) supervisor of production, and (*b*) management-employee relations representative.

The All-Important Staff

People shop where they enjoy shopping.

Shopping is sometimes a necessary nuisance, sometimes a delightful experience, and it is really the Staff that make the difference.

The Staff, in the eyes of the customer, count as much as the stock, because Service counts as much as Value.

Probably more, in fact, for people can get the same sort of goods at similar prices all over the place, but a single shop can make its service stand out from that of all competitors.

A great French lady, Madam de Stael, was wise when she said: "Sow good services: sweet remembrances will grow from them."—*Burlton Bulletin.*

"ELECTRICITY—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

Charles W. Eliot,
(Late President of Harvard University.)

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a name that has been associated with the triumphs of electricity during the past sixty years.

A LESSON IN POLITENESS

Transport workers all over the world have come in for considerable criticism from the Public for the impoliteness and discourtesy they have shown.

The Traffic Manager of the Southern Railway, England, has issued a pamphlet to the 40,000 employees in his Department. We take great pleasure in reprinting this with his special permission.

Admonitions addressed to other people may be very good for ourselves since they make us wonder about our own small failings.—ED.

The Public are naturally inclined, to a large extent, to judge the Railway by the Staff they meet. On the degree of helpfulness and courtesy they receive will depend our reputation and our progress—or the reverse—in the future.

If we give them cause to dislike us they will not be likely to use the Railway for their travel or the transport of their goods.

If discourtesy were to be shown, even at times of stress, the best transport service in the world would be unsuccessful.

It is, therefore, up to each one of us to do our best to make the Southern famous for a high standard of PERSONAL SERVICE.

Here are a few suggestions :—

(1) Be friendly, and treat each customer as YOU like to be treated : Make him feel welcome. It's not his fault if you are busy on other work or his enquiry is not your own job, so don't " take it out on him." If you cannot attend to him at once, say that you are sorry to keep him waiting.

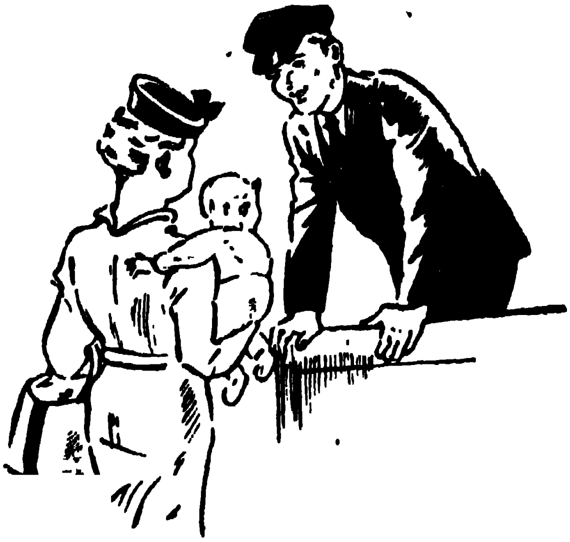
(2) A smile wins smiles in return and disarms grumblers.

(3) Don't argue with customers. Even if you win the argument, WE lose his goodwill and possibly his business.

(4) Respond cheerfully to ENQUIRIES :
  (*i*) Remember—although a customer's question may seem " silly " to *you*—he may be in a strange place and really wants to know. Give him a clear and helpful answer.
  (*ii*) If the customer doesn't seem to know what he wants—be patient. He may merely be confused, so try to help him out. Tact makes friends, but curtness makes enemies.
  (*iii*) Learn the answers to the every-day enquiries you get and find out who can answer other ones.

  If you *must* refer a customer elsewhere, don't just " push him off," but explain you cannot answer, and say who can give the answer. If it is a telephone enquiry, get the customer's number and see that he has a reply as soon as possible.
  (*iv*) To be courteous you need not be servile. You will be courteous if you are always attentive and helpful, even in difficult conditions.

(5) COMPLAINTS need special care :—
  (*i*) Don't look bored, or annoyed, or as if you are thinking " Tell me the old, old story." Listen attentively, and as if you had never heard that particular complaint before.
  (*ii*) Don't interrupt—let the complainant say all he wants, otherwise he will feel you think his complaint isn't worth hearing.



(*iii*) Express regret that he should feel he had cause for complaint, and it it cannot be cleared up on the spot, ask for his name and address and tell him the complaint will have attention.

(*iv*) Even if the complaint is due to the customer's mistake or misunderstanding—don't contradict him or make him " feel small." Get round it tactfully, so that he feels it was a natural error and grateful for your help.

(*v*) If there appears to be reasonable cause for his complaint, apologise on behalf of the Company for the trouble and inconvenience he has been caused.

(*vi*) Remember, a customer is always free to show displeasure—so don't argue unnecessarily, but be calm, sympathetic and helpful, and never let him feel you look on him as Public Nuisance No. 10,001.

(6) Always say " Thank you."

These little words, like " Please," "I'm sorry," " I beg your pardon," do a big job in making good relations with our customers, so use them freely.

If good relations are developed by courteous contacts, you will find your work gets easier and less harassing, and you will play a valuable part in making the SOUTHERN even more progressive, so ensuring your own job and future.

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WHAT'S BEHIND THE WORKING PARTIES?

By Sir Stafford Cripps, K.C., M.P.

President of the Board of Trade.

It is now, while commodities continue to be in short supply, that the great industrial nations of the world are straining every nerve to enhance their production. Only thus will it be possible to survive post-war competition when goods are freely available once more. In the United Kingdom, Sir Stafford Cripps has instituted Working Parties or Panels with a view to securing maximum co-operation between employers and employees and thus enhancing the country's productive efficiency. Sir Stafford discusses the formation and work of these panels below.—Editor.

THE Working Party is a device for securing the best possible guidance on the policies which should be adopted to bring an industry to the highest pitch of efficiency under private enterprise. It is based on three considerations: firstly, advice must come from industry itself, because that is where all the past experience resides; secondly, employers and workers should be equally represented, because both sides not only have a contribution to make, but also will have to carry out any plans that may be decided upon; and thirdly, the public and Parliament must be satisfied—whatever the recommendations may be—that they are truly in the national interest and that the two sides of industry have not "ganged up" against the consumer for their own advantage.

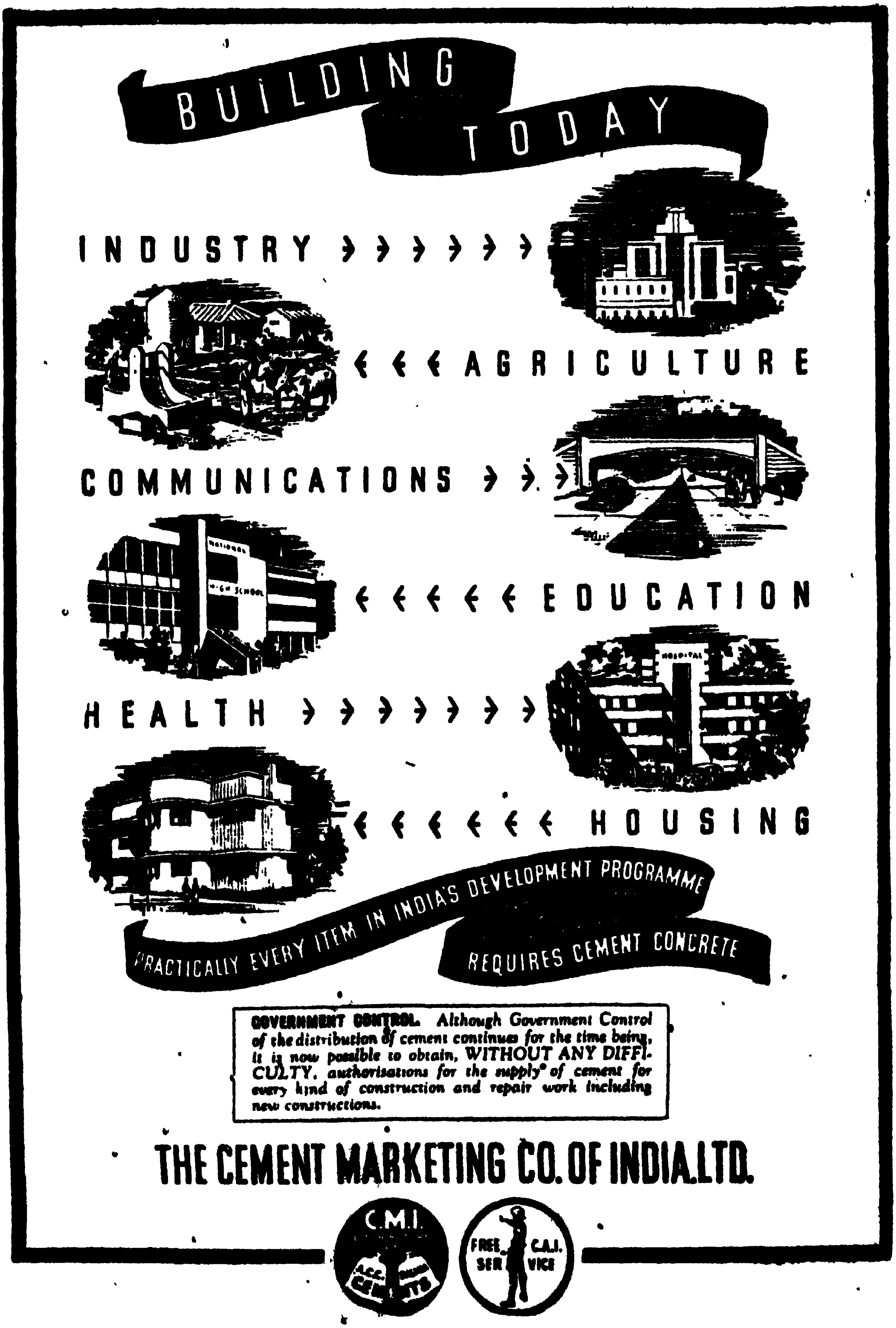
The Government have decided that these three conditions can best be fulfilled by establishing tripartite working parties composed in equal proportions of representatives of employers and workers and of independent members, and consisting of persons who will be accepted nationally as an authoritative body.

The independent members who are appointed by me from outside the industry are in no sense "political nominees." They are selected for their expert knowledge and ability in such fields as economics, engineering, research, design and so on. The independent Chairman have similarly been selected purely on grounds of ability, and a great impetus has been given to the progress of the scheme by the willingness of men and women of national reputation to serve as Chairman.

The terms of reference of all these Working Parties are in common form. They are to examine and enquire into the various schemes and suggestions put forward for improvements of organisation, production and distribution methods and processes in the industry, and to report as to the steps which should be taken in the national interest to strengthen the industry and render it more stable and more capable of meeting competition in the home and foreign markets.

Matters concerning the relations between employers and employees, which are dealt with by employers' federations and trade unions, are outside the scope of the working parties' enquiries.

A wide range of industries will eventually be covered, but a start has been made with those where it is felt that this type of enquiry is most urgent and will be most fruitful. The Cotton Industry was the obvious starting point as it has an important part to play in our export trade and it has the legacy of many years of depression to live down.



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Like other industries, cotton has been the subject of a number of reports in recent years, some from employers, some from the workers and some from outside the industry. The trouble has been that, while these reports contain many valuable suggestions, they tend to make their approach to the problem from a particular sectional angle. What the Working Parties are trying to do is to examine all the suggestions impartially from the point of view of one interest only: the national interest—the tripartite interest of employer, worker, and consumer.

Under Sir George Schuster's Chairmanship the Cotton Working Party has been pressing ahead with its enquiries and has taken a great body of evidence in the hope of reaching early conclusions on the main points. I have asked all Working Parties that interim reports should be made upon matters of special urgency and that, while undue hurry must not be allowed to spoil the value of the reports, they should be presented as soon as possible.

In addition to cotton, Working Parties have so far been set up for pottery, furniture, hosiery, boots and shoes. The independent Chairmen are Sir Archibald Forbes, Mr. A. Dagleish, Miss Caroline Haslett, Mr. T. P. Bennett, respectively. I have already had preliminary discussions with the wool, cutlery, jute and linoleum industries, for which I hope Working Parties will shortly be set up.

The membership of the Working Parties has been limited to not more than five a side in order to prevent them from becoming unwieldy. Each Working Party has power to appoint sub-groups and to co-opt specialists on to them so that it can have access to all the technical advice it requires on any particular aspect of the problem. Sub-groups have been appointed by most of the Working Parties now in operation to examine such problems as costs, welfare, design, training, machinery, distribution and statistics. They have invited both organisations and individuals to submit evidence.

Working Parties are free to carry their enquiries in whatever direction they feel is necessary for the solution of the problems, but it has been pointed out to them that the nationalisation of these industries is not part of the present Government's programme.

When their reports are available it will be for the Government to decide what action is necessary to carry out their recommendations and what machinery should be adopted for enforcing them. Although the Government is not committed to accept any of the suggestions in full it has obviously not asked these bodies to carry out this immense task merely in order to ignore their recommendations.

Sir George Schuster, in a recent statement on the progress of the Cotton Working Party, has summarised admirably the purpose and the potentialities of this new machinery: " I think my colleagues will agree that the term ' Working Party' has been no misnomer," he said. " We are working hard and we are keeping at it. We shall count our efforts well worth while if at the end we have helped to show the way along which the next steps must be taken—a way which will eventually lead to the goal of a prosperous, progressive and stable industry, which can offer a steady and attractive employment to operatives, a fair return to the employer, and a square deal to the consumer at home and abroad. I believe that this goal can be reached if all concerned will march together."

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TEXTILE MILLS

(General Precautions)

1. Carry only safety matches in the mill; follow all "no smoking" rules.
2. Around machines wear snug-fitting clothing with no loose ends.
3. Wear goggles, safety shoes and other protective equipment as required.
4. Keep bobbins, sticks and other loose objects off the floor. Place empty bottles in the containers provided.
5. Report oil or water spots on the floor, and all other unsafe conditions, to your second hand or overseer.
6. Shut down machines before making repairs or hand cleaning moving parts. Before starting a machine, be sure no one is working on it.
7. Close knives or carry them in sheaths, not open in your hands or pockets.
8. Make repairs or operate machines only as you have been authorized.

SAFETY INSTRUCTION CARD No. 750

SPINNING

(Cotton Mills)

1. Keep gear cover down and guards on while machine is running.
2. Pull switch or lock belt on loose pulley before working on frame or changing gears.
3. When cleaning steel rollers, draw the hand toward you away from the roller.
4. When stopping bobbin or spindle, do not place your finger between lifting rod and bobbin.
5. Walk and watch for doff boxes in aisles; do not try to go between close set frames.
6. Always follow the spooler traveller; never lead or work in front of it.
7. Use the ladders; do not stand on boxes or roving cans,
8. Report boxes with splinters or sharp edges to second hand or overseer.

SAFETY INSTRUCTION CARD No. 751

DRAWING AND FLY FRAMES

(Cotton Mills)

1. Use only brushes for cleaning around heads of frames or hangers.
2. Lock fly frame shutters before cleaning gears or box, and before making any repairs. Before starting frame, be sure no one is working on it.
3. Do not use a knife for cutting checks from rolls.
4. On drawing, be sure calender roll cover is entirely back before attempting to remove check.

SAFETY INSTRUCTION CARD No. 752

SPOOLING AND WARPING

(Cotton Mills)

1. Keep your hands off tops and winders of spoolers.
2. Keep your hands out of bobbin pockets when traveller is approaching.
3. Wear snug-fitting clothing (no aprons or loose ends) around warpers.
4. Turn beam by hand when threading warpers.
5. Never clean warper drums with beam in place. Keep beam guards down.
6. Use a ladder; don't stand on bobbin boxes or roving cans.
7. Stop fans before removing waste from dust collector.
8. When handling beams, avoid jerking the load. Bend your legs, not your back, when lifting.

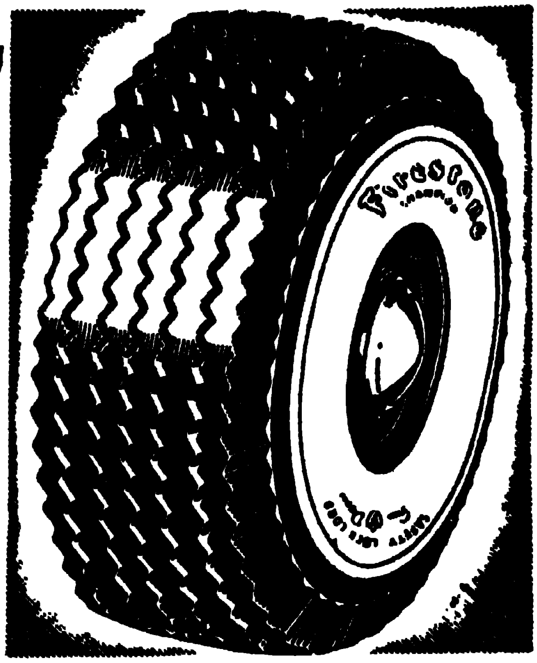
SAFETY INSTRUCTION CARD No. 753

LAPPERS AND COMBERS

(Cotton Mills)

1. When taking weights off rolls keep your feet in the clear. Wear safety shoes.
2. Keep your hands out of calender roll when starting lapper.
3. When laying down lap on comber, keep your fingers away from detaching roll.
4. Keep all spools in proper racks.
5. When lowering the clearing roll keep both hands in the clear. Do not start the frame until both hands are out of the way.
6. Report missing or defective guards.

SAFETY INSTRUCTION CARD No. 754
National Safety Council.



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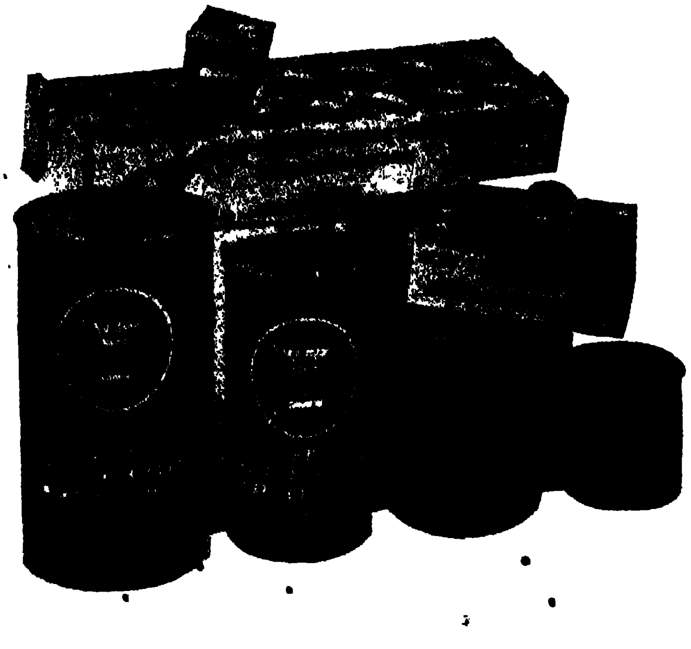

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Physical Training—A Part of Industrial Life—II

H. MARGARET WATT
Central Council of Physical Recreation

IN addition to the part leisure-time physical activities can play in the general health programme of the young worker and the value of work-time classes as one method of fighting absenteeism, there is a further important piece of work that actual physical training can do in industry.

In this age of machinery, all the art and craftsmanship of the designer and engineer go to the perfecting of the automatic machine. Guards are placed for prevention of accidents—even special floors have been invented to ensure a certain mobility of feet—and at the other end of the scale, rehabilitation has come to stay "in a big way." There is a gap here. The machines are perfect; the safeguards are there; the cripples are made well; but little is done to ensure that the human being is helped to give his or her physical best, and even less to train the operative to be physically agile and mentally alert enough to avoid accidents.

"Motion study" has analysed industrial processes so that the natural rhythm of the worker is studied and her capacity measured before she is "placed" in her job. Reports show tests by the score, but little evidence of any *training* to give workers a higher physical standard in such tests. *

In fact, the human being is usually considered a constant factor like the machine or the tool, whereas there are enormous possibilities of physical improvement in every worker. Physical training can train her to co-ordinate her hands and eyes and so become more dexterous; it can make a worker more agile and so avoid accidents; it can strengthen her muscles and show her how to economise effort in lifting weights; it can, in fact, revolutionise factories where girls have been placed as low grade performers when, probably by physical training, especially when young, they could easily qualify for a higher grade. Schemes of work which have the dual purpose of increasing the skill of the worker and reducing her accident proneness should aim at grouping the big variety of movements common to industry and evolving special training for each group.

Purposeful Training

Purposeful training in order to increase efficiency at certain specific tasks can, therefore, be given in groupings similar to those outlined below:—

(*a*) Pulling and pushing.
(*b*) Lifting.
(*c*) Fine precision work.
(*d*) Work involving balance.
(*e*) Work involving agility.
(*f*) Work involving rhythm.

Obviously, rhythm helps all movements just as most work involves some pushing or lifting, but the emphasis of the exercise table should be placed according to the special grouping. It is wise to give a brief "daily dozen" or short table of general free-standing exercises first; and in all classes special attention should be given to the use of feet, and the right ways of standing, walking and sitting. Many factories provide well-shaped shoes or clogs and they may instal good chairs, but there is little, if any, evidence of

---

* "A classification of Vocational Tests of Dexterity." Health Research Board Pamphlet No. 64.

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training how to use feet inside shoes, or how to sit on good chairs. In addition, older workers who are promoted to forewomen's work after a completely sedentary job when younger, are seldom, if ever, shown how to walk.

An important point has been raised more than once that workers might resent being used as "scientific guinea pigs," and that a hint that by their training the firm would make more money would be resented. If it is pointed out to the workers that economy of effort brings not only added efficiency, but fortunately too the correction of working difficulties (*e.g.* flat feet and aching back), a feeling of rest rather than strain, and an added attractiveness, then women and girls are usually willing to give the classes a trial.

Experiments are now being made by the Central Council of Physical Recreation in various factories with a wide variety of work and conditions. One full-time gymnast is devoting all her time to showing and training women how to lift weights; another is giving a variety of training classes within work-time and is combining this work with the organisation of all leisure-time activities; many firms have weekly, bi-weekly or daily work-time classes taken by Central Council Representatives.

Obviously all such work needs specialist teaching and wise supervision and cannot be undertaken without the close co-operation of managements, medical officers, production managers and welfare officers. The C.C.P.R., which unites most of the organisations interested in physical activities in this country and is grant-aided for pioneer work both by the Ministry of Education and the Ministry of Labour and National Service, is in a unique position to help industrial firms.
—*The Industrial Welfare Society.*

WRITE THE LAST LINE AND WIN Rs. 5/-!

"What a headache!" groaned night-owl McBride,
As he came on the job, droopy-eyed.
But he not only grumbled—
He fumbled and stumbled

Any subscriber to Efficiency News can enter. All you have to do is to supply the missing last line that rhymes with "McBride" and "eyed" and deals with safety. A prize of Rs. 5 will be awarded to the best entry. The decision of the Editor will be final. Entries, cut from the magazine with the missing line filled in, should reach the Editor, Efficiency News, Electric House, Fort, Bombay, not later than 20th June, 1946. Maybe the list of hazards below will help you.

Litter-poor housekeeping
Failure to use protective equipment
Material stacked insecurely
Faulty or inappropriate ladder
Lifting with back instead of legs
Leaving off machinery guards
Unsafe work clothing
Adjusting machinery in motion
Objects where they can fall
Women's hair unprotected
Defective tools
Running, especially on stairs

These hazard hints may or may not help you to write the last line. But you CAN prevent accidents by avoiding these hazards.

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WHAT IS NATURE CURE?

BY DR. J. M. JUSSAWALLA, N.D., D.O., D.C.

As Nature Cure is today receiving some of the publicity it so rightly deserves, we asked Dr. Jussawalla, Vice-President of the Bombay Provincial Naturopathic Association, to write an article on the subject for us. We are deeply obliged to him for readily complying with our request.—EDITOR.

"AS a scientist of fifty years of study and research, I come to the conclusion that the things which we have said are impossible today become possible tomorrow; things considered improbable today become probable tomorrow, and the cases considered incurable today by the professional men may be found to be curable by some other method tomorrow."—Sir Oliver Lodge.

Nature Cure is a comprehensive term applied to all methods of treating disease which aim at co-operating with the natural forces and defensive mechanism of the body. It is a distinct system of healing based upon its own philosophy of health and disease. Nature Cure is not a collection of fads, nor, as some would suggest, a body of superstitious notions, nor again is Nature Cure a scheme for returning to the wild life of the woods. It may be defined as an art, science, philosophy and practice based upon definite physical, chemical, biological, mental and spiritual laws for the restoration and maintenance of health and the correction of bodily disorders without the use of poisonous drugs.

The principle tools which Nature uses in maintaining and restoring health are diet, rest, exercise, sunlight and fresh air. Hydrotherapy (water treatment), electro-therapy, massage, corrective manipulations and gymnastics are natural systems of treatment included in the general term 'Physio-therapy.' All these systems have been developed to aid and accelerate natural healing. Their effect depends on their power in assisting Nature to throw off disease by their reflex action on the circulation of the blood.

The leading axioms of the Nature Cure science may be briefly explained:

The Unity of Disease: There is only one cause of disease, although the disease may manifest itself in various forms and with different degrees of severity. The particular part of the body in which the disease chances to make its appearance and the external form in which it expresses itself depend upon hereditary influences, age, vocation, abode, food, climate, and other factors.

Barring trauma (injury) and surroundings uncongenial to human life, the fundamental cause of all disease is violation of Nature's Laws. Violation of these laws—whether in thinking, breathing, eating, drinking, working, and resting, as well as in moral, sexual and social conduct—result in certain primary and secondary manifestations of disease.

With regard to the so-called hereditary diseases, there is a widespread impression that heredity is the primary cause of disease. This is a fallacy. *Heredity is an effect, not a cause.* If the parents possess good vitality and normal blood and tissues, and if they apply

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in the pre-natal and post-natal treatment of their child the necessary insight and foresight, there cannot be any disease hereditary. The parents (or earlier ancestors) may have ignorantly or wantonly violated Nature's laws, such violation resulting in lowered vitality and deterioration of blood and tissues. The human body with its millions of cells and cell colonies, is developed by multiplication with gradual differentiation of the reproductive cell. Its abnormalities of structure, of cell materials, and of functional tendencies are reproduced just as surely as its normal constituents.

In any case, however, those inheriting the weaknesses of their parents or ancestors have one consolation : If they are treated in accordance with the teachings of natural therapeutic philosophy, the abnormal hereditary encumbrances and tendencies can be overcome and eliminated within a few years. If the infant organism is placed under the right conditions of living and treatment in harmony with the laws of its being, the life principle within will approach steadily to the establishment of the perfect type.

The Fundamental Law of Cure : "Give me fever and I can cure every disease," said Hippocrates, the father of Medicine, over 2000 years ago. This same law has been expressed by Dr. Henry Lindlahr, the pillar of the Nature Cure movement, in the following statement : "Every acute disease is the result of a cleansing and healing effort of Nature."

Making a general application of the law, we deduce that all acute diseases ranging from a simple cold, to measles, scarlet fever, diphtheria, small-pox, pneumonia and other dreaded ailments, represent Nature's efforts to remove from the system some form of morbid matter, virus or poison dangerous to health and life. In other words, acute diseases cannot develop in a perfectly normal healthy body living under conditions favourable to human life. Every outbreak of the skin—whether in the form of rashes, boils or other eruption—means that the life force in the body is seeking to expel matter which is superfluous, objectionable or poisonous. Diarrhoea is another typical self-cleaning effort on the part of Nature to liquify, and thus more easily get rid of foul, fermenting or unwholesome matter from the bowels. Less visible but nonetheless certain are the efforts of Nature to expel poisons or wastes in minute chemical or crystalline form through the kidneys in the urine, and in perspiration and gases through the skin and lungs respectively.

The profound teaching that all acute and feverish ailments and diseases are in reality self-purifying efforts on the part of Nature would be generally acceptable if people's minds were not so hypnotised by the disease-germ ' idea which has gained such an exaggerated importance today.

Nature Cure does not neglect the increased knowledge of the human body which has been acquired in modern times. Neither does it deny the existence of microbes which are misnamed ' disease-germs' ! But it teaches that these microbes do not begin the trouble ; they appear and flourish only when the Laws of Nature have been violated. No ' infectious ' disease can be ' caught ' unless there is already a ' soil ' in which the disease can flourish.

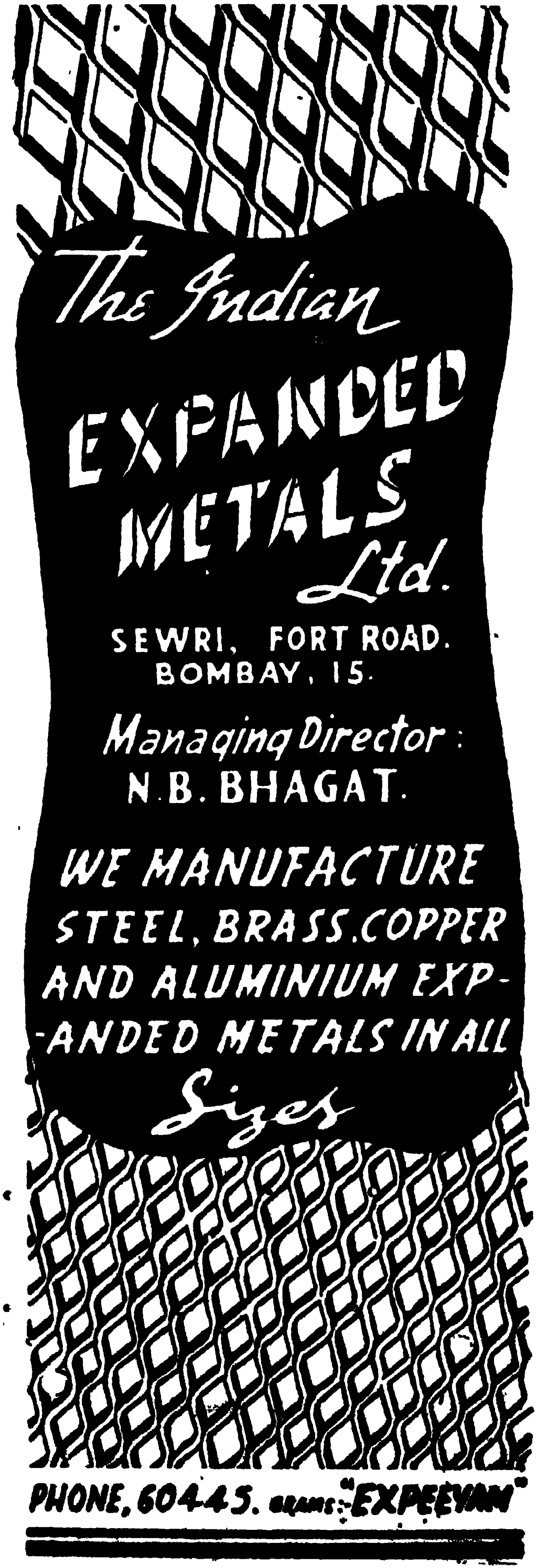
The question may be asked : If acute diseases represent Nature's healing efforts, why is it that people die as a result of them ? The answer to this is that, a person's vitality may be too low or that the injury or morbid encumbrances or the treatment may be inadequate or harmful. In this case, Nature may lose the fight. All diseases, therefore, must be considered as Nature's efforts to remove the causes of ill-health and to re-establish a normal healthy condition.

Nature's healing efforts can, alas, be confused, baffled or suppressed by drugs, ointments, vaccines, and other attempts to interfere with Nature's course. Again, needless surgical interference may lead to the removal, alteration, or suppression of feelings and symptoms without removing the real cause of the trouble. When Nature is baffled in any such way, she exacts grave penalties. The increase in chronic diseases, morbid growths, and other manifestations of ill-health in modern times is the price we pay for suppressing, changing, or seeking to prevent Nature's curative efforts by unnatural means.

Nature Cure, on the other hand, holds that disease and ill-health of every description can be prevented or really cured only by making way for Nature—by removing as far as possible all that blocks or hinders Nature's self-purifying impulse and by raising the tone and condition of the whole system, so that Nature's self-cleansing and reconstructive efforts do their work quickly and effectively.

It should always be borne in mind that fundamentally the physical well-being of every patient must come from within. That is the essence of Nature Cure philosophy and practice. The healing comes from within. The function of the physician is to help secure that condition—physical and mental—whereby the process of healing will be helped and accelerated. Self-help is the essence of Nature Cure.

Recognising the Unity of Disease and the Unity of Cure, the Nature Cure system of therapeutics is based on the firm rock of principle, not on the shifting sands of fashion. No matter how poor the chances, Nature is as tenacious in her efforts to heal as a drowning man is to live—both will cling to the proverbial straw. This is the comforting thought that must ever be foremost in the mind of the patient—"Vis Medicatrix Naturae" or "Nature Cures."



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THE SOIL—ITS CONSERVATION

PLANS for India's industrial development need to be vigorously pursued. But in doing this, we must not forget that India is primarily an agricultural country. To achieve "freedom from want," we have to depend primarily upon our agricultural output. This output, in its turn, depends fundamentally on the conservation of our soil. The present food shortage all over the world, and particularly in India, underlines the urgency of the problem of soil conservation.

The soil becomes impoverished either through lack of fertiliser or through erosion, the top soil and roots being washed away through exposure to rain and floods.

The first and basic principle of agriculture is that you cannot take more out of the soil than you put into it.

The soil needs three basic elements: phosphates, lime and nitrogen. A serious deficiency of any of these elements 'kills' the soil rendering it barren. On the other hand, a soil rich in these elements is abundantly fertile and, therefore, one of the most vital assets of the community. The elements just mentioned can be added to the soil either through decayed animal, human and vegetable matter, or through the agency of chemical phosphate and ground lime-stone. Experiments carried out with both natural and artificial (chemical) fertilisers show that the former are far more effective. This is to be expected if only for the reason that natural fertilisers are more closely related to the substance of the soil than artificial preparations.

In unscientific farming, the soil in the run of the water is frequently exposed and unprotected by a cover of grass and roots. The cutting of trees and undergrowth, results in the water washing away the top part of the soil. If this action is allowed to continue year after year, there is no soil left to yield any crops.

The restoration of the soil is a slow process but one which needs to be given high priority in our efforts to raise India's standard of living.

Ditches and dams must be built to hold running water until it can soak down and feed the grasses and trees. Streams must be prevented from running and made to walk. Ploughed fields which are subject to the action of running water must be terraced, following the contours of the same level. Sodding and seeding must be used to restore the cover. Deforestation must be stopped and seedling trees selected for their ultimate use must be planted and tended to arrest any further depletion of the soil.

In addition to this, the farmer must bring his practices into line with the requirements of soil conservation. To this end, grazing should be controlled and afforestation should be encouraged.

To overcome the added effect of tradition and apathy, farmers should be made to see the effects of scientific agriculture by actual demonstration. Once the new methods are approved and adopted, they should be enforced by adequate legislation on the widest possible scale.

Post War Reconstruction??

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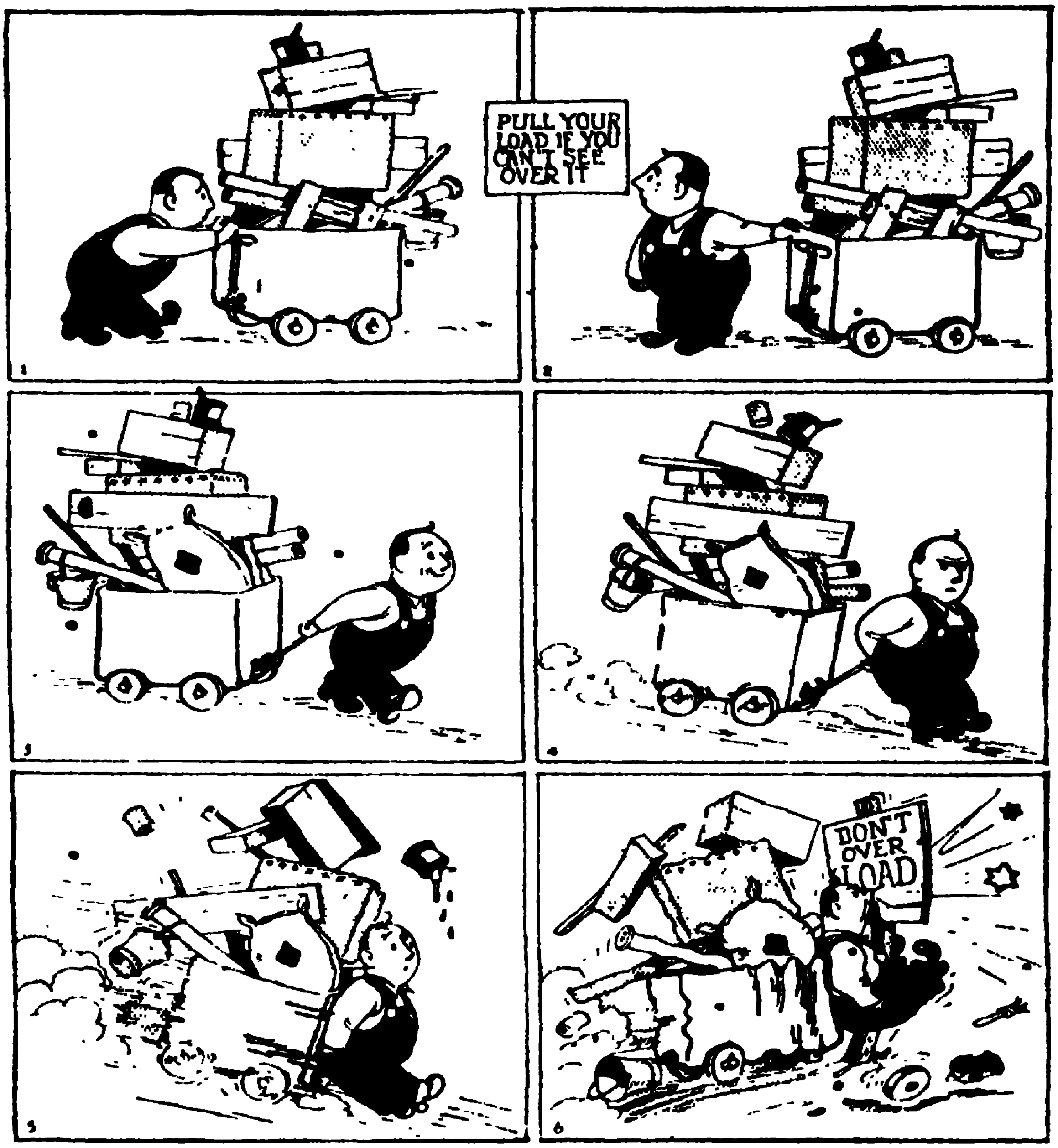
EFFICIENCY NEWS, June 1946

ADVENTURES OF PERCY VERE


PULL YOUR LOAD IF YOU CAN'T SEE OVER IT
DON'T OVER LOAD
1
2
3
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6

Here are some tales of Percy Vere.
(You've often seen his posters here.)
At safety work he's fairly bright,
But never gets the whole job right.
He sees the faults in other men
And points them out at once, but then
As soon as one risk's been prevented
He and his mate get accidented
So watch him well. See how poor Percy's
Mistakes are echoed in the verses.
The Medicine's mixed with humour's honey
But accidents aren't really funny.

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WHO ARE YOU?

THERE are numerous occasions when one has to establish one's identity. In case of an accident or loss of property, for instance, some means of establishing one's identity is essential.

During the war, the identity card system was established in England. The card gave the person's name, address, signature and certain registration particulars. One defect in this card, however, was that it did not contain the holder's photograph. Now that the war is over, many correspondents, have urged the necessity for continuing the identity card system.

There have been objections, too. But these objections are on the whole more psychological than practical, for the average citizen does not take kindly to the thought that he is registered in some Government office. But apart from this objection, which is not very reasonable, a great deal has to be said in favour of a well-designed identity card system. This applies particularly to us, for in most countries of the world people carry passports or some other identification cards.

For an identity card to be of real value, it should contain the holder's name, his full postal address, any changes in his address, his signature, his blood group, the name and address of his next of kin, place of employment, the drugs to which the holder is allergic, and other miscellaneous items like the dates of innoculation, vaccination and so on. It is obvious that this information would serve a vital purpose in case of accident or other emergency.

With a view to giving practical shape to this idea we have pleasure in submitting a proposed design for an identity card. It is suggested that the identity card should be 6½" × 5", the photograph being 2" × 2½". Readers are requested to send suggestions to the Editor with a view to improve on the design reproduced below.

Photo

Signature

Name ....

Address ....

....

....

Next of Kin ....

....

Year of Birth .... Colour of Eyes ....

Visible Marks .... Blood Group ....

....

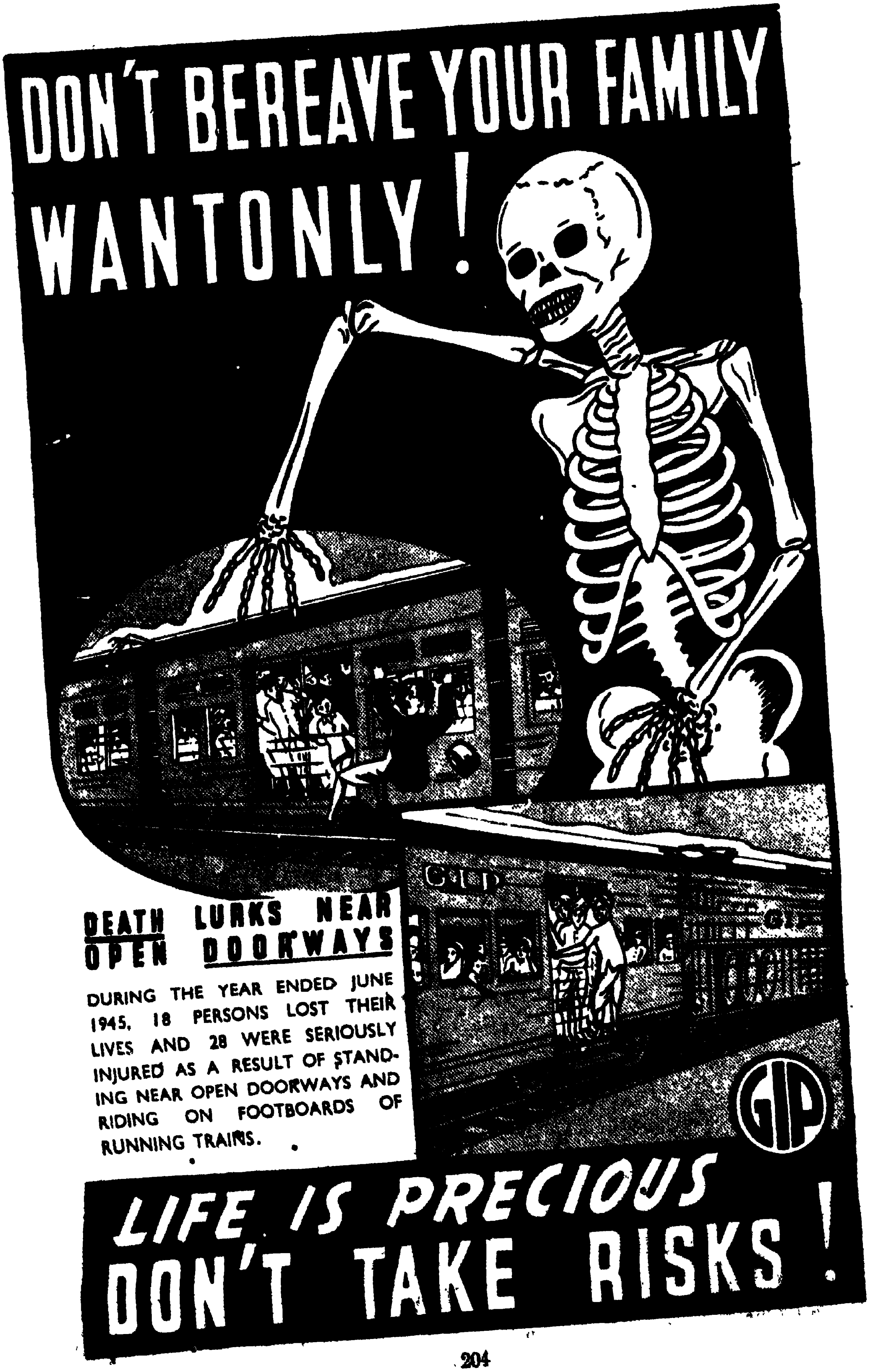
....

....

....

On the reverse of the identity card the following instructions would serve a useful purpose:

1. Always carry your identification card with you. You never know when it might be useful.
2. Should you change your address, please give the full postal address of the place to which you have moved.
3. Use the space marked 'Miscellaneous' for particulars that you think would be useful to you; the number of your ration card, &c.
4. Any ordinary passport-size photograph will do. Place this in the space provided and sign over it. This is an additional precaution which is well worth adopting.



DEATH LURKS NEAR OPEN DOORWAYS

DURING THE YEAR ENDED JUNE 1945, 18 PERSONS LOST THEIR LIVES AND 28 WERE SERIOUSLY INJURED AS A RESULT OF STANDING NEAR OPEN DOORWAYS AND RIDING ON FOOTBOARDS OF RUNNING TRAINS.

SAFETY OFFICERS' TRAINING COURSE

PROGRESSIVE industrialists are wide awake today to the cost of accidents. But it is one thing to want to prevent accidents, and another to actually prevent them. In other words, the work of accident prevention is a highly specialised job, one which should be made a whole-time job under the supervision of a specially trained Accident Officer.

Probably, the most comprehensive and thorough course in this field is offered by the Royal Society for the Prevention of Accidents on behalf of the British Ministry of Labour and National Service. We give below details of this Course with the hope that Indian industrialists may send promising men abroad for specialised training in the work of Accident Prevention.

The Course just referred to provides systematic training in a field where such training is invariably acquired through costly experience. From the syllabus reproduced below, it will be seen that Accident Prevention is an extensive and specialised technique—a fact that emphasizes both the need for training and the importance of employing as Safety Officers those with a fairly wide background of general knowledge.

The Course is a residential one extending over 11 days. The fact that it is residential facilitates personal discussions between trainees and contacts between trainees and lecturers. Three of the lecturers are in residence throughout the course in order to give help and guidance with personal problems. Other lecturers usually stay one or two nights and are available for informal consultation.

The aim is to give every trainee a solid grounding in the basic principles and practice of accident prevention. Mechanical, electrical and chemical hazards, industrial poisoning, the influence of health and psychological factors, the law and the human factor are all considered as well as the detailed organisation of a works safety campaign. It is essential that trainees have some prior knowledge of industrial organisation, machinery and processes. A trainee without such knowledge is under a very severe handicap, especially during the technical sections of the Course.

The Course itself consists of 24 lectures by 18 different lecturers, and 8 special discussion sessions. Most of the lecturers are drawn from the specialised staff of the Factory Department, from the Industrial Department of the Royal Society for the Prevention of Accidents, and from industrial concerns with long and successful experience of organised accident prevention.

Time for discussions is allowed at each lecture after which there is a period set aside for the correction and fair copying of lecture notes. Former trainees say that they have found their notes of inestimable value for reference purposes.

There are various "problem" sessions in which trainees take an active part. They are designed (*a*) to test trainees' knowledge of what has been said at lectures, (*b*) to emphasise and amplify some of the more important points and (*c*) to give trainees essential practice in interpreting the legal language of the Factories Act and Orders.

Courses are usually held at one of the Oxford Colleges; they have been found ideal for making the best of the residential atmosphere. Each trainee has his own bedroom and

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sitting-room. Lectures are in the College Lecture Room and meals are in Hall. There is also a Common Room.

The demand from industry for training facilities is so considerable that, for the present, the courses are open only to persons nominated by their employers and either acting, or about to act, as full or part-time Safety Officers in factories. For the same reason, trainees are accepted only if they are able to take, and be resident during, the whole of the course.

The cost of the course, including full board and lodging and a certain amount of special literature, is in the region of £12 per head, payable by firms sending employees for training.

Standard Syllabus for Training Courses

Introduction.

A1. Review of Accidents, their Causes and Prevention.
Synopsis: Tendency of accidents to repeat themselves; analysis of causation and its lessons; technical and human causes with corresponding preventive measures; how the works organisation is related to these; the place of the organiser; function of the law.

A2. Arrangement of the Course.
(These lectures will give trainees a picture of their subject as a whole and of the relationship of its constituent parts).

Technical Causes and Remedies.

B1. Buildings, plant, ways and traffic.
Synopsis: (*a*) Structures, roofs lighting, heating and ventilation, colour schemes; (*b*) Roadways and approaches, yards, stairways, floor surfaces, walkways, platforms; means of access; road and rail traffic.

B2. Mechanical hazards.

Synopsis: (*a*) The basic principles of machine guarding; machine hazards classified under twenty-four headings: the principles of fencing: (*i*) construction, (*ii*) position, (*iii*) guards—fixed, automatic, interlocked, tripping and positional, (*b*) Illustrative examples of the principles of machine guarding. (*c*) Some special hazards—cranes and hoists, lifting tackle, boilers, pressure vessels.

B3. Chemical and allied hazards.

Synopsis: Dust, fumes, gases, solvents, corrosives, poisons and their incidence; sieving, grinding, coating, degreasing, spraying; explosions and spontaneous combustion; basic precautions with chemical hazards; rescue and the entering of enclosed spaces; new processes and materials with unknown effects.

B4. Industrial poisoning.

Synopsis: Poisons—entry into body and action; acute and chronic poisoning; *e.g.*, benzene, mercury. Industrial diseases—localised, *e.g.*, anthrax, epitheliomatous ulceration, dermatitis, silicosis. Gases—immediate and remote effects; *e.g.*, anoxæmia, CO, H_2S, nitrous fumes. Preventive measures; effects of light and heat radiation.

B5. Electrical hazards.

Synopsis: Principles of electrical safety—D.C., A.C., three-wire system, fuses, ratio of setting of over-load protection to earth resistance; safe use of equipment, *e.g.*, hand-lamps, portable tools, lampholders, flexible leads.

B6. Personal protective devices.

Synopsis: Goggles, screens, veils, face-masks, and eyewash bottles, hats and caps; respirators, breathing apparatus and resuscitation appliances. All types of protective clothing, including aprons, leggings, sleeves, gloves, palms, boots and clogs; safety belts.

The Law.

C1. The Factories Act, 1937.

Synopsis: History, earlier Acts; the 1937 Act; the law as a minimum standard.

C2. Statutory Rules and Orders and Selected Sections of the 1937 Act.
Synopsis: Relationship between orders and the Act; certain sections and orders in detail, *e.g.*, certified machinery attendants, woodworking, duties of persons employed; forensic aspects, inquests and statements.

Human Causes and Remedies

D1. Everyday human Causes.

Synopsis: Relation between human and technical causes; position of management and supervisors; handling goods, falls of persons and objects, collisions, hand tools, stacking and piling, slinging, tidiness, shunting, exits, walking, climbing.

D2. Health factors.

Synopsis: Health, general; special defective vision and hearing; fatigue, causes of, outside and within factory; weight-lifting, posture, disability and rehabilitation.

D3. Psychological factors.

Synopsis: Connexion with physical factors such as ill-health and fatigue; working conditions; accident proneness—sensori-motor co-ordination, flurry, emotional instability; training and retraining; movement study; safety habits; monotony, perversity; humorous and gruesome propaganda.

D4. Trades Union Co-operation.

Synopsis: The place of the Trades Union Officer on works accident prevention committees; local Trades Councils and Federations; the attitude of the worker to accident prevention—and making it positive and progressive.

Organisation and the Organiser.

E1. A typical organisation.

Synopsis: Outline of a typical works organisation; the essentials, small works.

E2. Managerial support.

Synopsis: Its extent and nature; technical and executive and manufacturing departments; foremen and supervisors.

E3. Committees.

Synopsis: Constitution and personnel, meetings, agendas; status, relation to works council and management; routine; inspections; minutes, follow-up of recommendations.

E4. Statistics.

Synopsis: Frequency and severity rates, analysis by causes and nature of injuries, records, charts, graphs, uses of statistics.

E5. Propaganda.

Synopsis: Posters, displays, films, leaflets, bulletins, personal contacts, committee members, individual and departmental competitions, pay-envelope slips, suggestion schemes.

E6. Summary of Organisation.

Synopsis: The "six essentials"; the organiser's actual duties in connexion with statistics, propaganda, committees, inspections, investigations, personal contacts with management and workers; special education of new workers and juveniles.

Any Other Questions?

F1. Fire.

Synopsis: Construction of buildings in relation to fire resistance; some special fire hazards of industry; First Aid fire appliances; automatic fire alarms; automatic sprinklers.

F2. Miscellany.

Synopsis: Official Forms; local authorities; the Factory Department—The Royal Society for the Prevention of Accidents; local accident prevention groups; the organiser's bibliography.

* * *

Adventures of Percy Vere

These cartoons which have appeared in this magazine from time to time, are now available in a coloured booklet form at the Safety Bookshop, Electric House, Fort, Bombay, at Rs.3/- per dozen, postage extra. Industrial organisations will find these cartoons of great value, as their artists can easily adapt them to suit their own local conditions.

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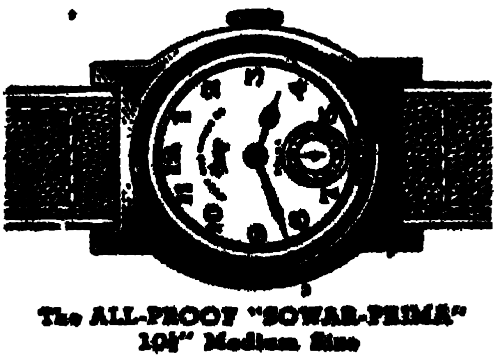

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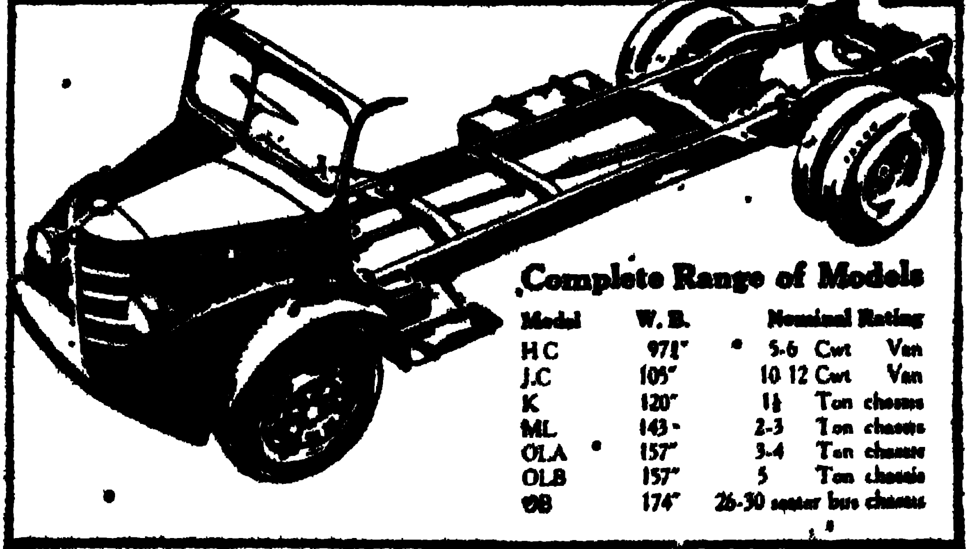

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EFFICIENCY NEWS

Vol. XIII. No. 7 **JULY 1946**

REGIONAL DEVELOPMENT

THE development of the Tennessee Valley region in America will probably go down in history as the greatest single achievement of the twentieth century.

What did the Tennessee Valley Authority, charged by the United States Government with the responsibility for the development of this region, actually achieve? The answer to this as well as to other vital problems relating to regional development is given with sober enthusiasm by David E. Lilienthal in his *Democracy On The March*. He tells there of "how waters once wasted and destructive have been controlled and now work, night and day, creating electric energy to lighten the burden of human drudgery." He tells of "fields grown old and barren with the years, which now are vigorous with new fertility, lying green to the sun; of forests that were hacked and despoiled, now protected and refreshed with strong young trees just starting on their slow road to maturity; of the people and how they have worked to create a new valley."

The T. V. A. was certainly not the first agency in the world to control a turbulent river or to bring fertility to barren lands. Wherein, then, lies the special significance of the T. V. A. experiment? "The new thing about the T.V.A.," writes Lilienthal, "was that one agency was entrusted with responsibility . . . to design and build the dams, buy the land, construct transmission lines, and market the power the river produced. *One agency was to 'envision in its entirety' the potentialities of the whole river system,* for navigation, for power, for flood control, and for recreation." The unique achievement of the T.V.A., then, was the *unified* development of *all* the assets of the *entire* Tennessee Valley region.

One vital note which Lilienthal strikes throughout his book is that the transformation of the Tennessee Valley is full of promise for river basins the world over. "I write of the Tennessee Valley, but all this could have happened in almost any of a thousand other valleys where rivers run from the hills to the sea. For the valleys of the earth have these things in common: the waters, the air, the land, the minerals, the forests."

The Tennessee Valley experiment, however, has a special significance as far as this country is concerned; for India is blessed with great rivers and other natural resources. By adapting the methods of the T.V.A. to suit local conditions, we could develop our vast water-sheds within a few years, and transform our rivers from periodical threats to life and land into great reservoirs of power and natural wealth.

The *methods* used in the development of the Tennessee Valley also contain many vital lessons which deserve careful study on the part of all statesmen, public administrators, businessmen and industrialists; for these methods have earned the highest praise from experts the world over.

In order to arouse public interest in this matter, we propose to discuss various aspects of the T.V.A. experiment, starting with the present issue of *Efficiency News*.

T. V. A. AND PLANNING

DAVID E. Lilienthal's book on the Tennessee Valley Authority, entitled *Democracy On The March*, contains many valuable lessons for planners. These lessons merit close study on our part if we are to achieve any degree of success in the development of our vast and varied natural resources.

The spate of post-war "plans" which have been produced during the last few years has led to an unfortunate reaction against all planning and planners. Nor is this reaction entirely unreasonable; for a high percentage of these plans have turned out to be of the "armchair" variety, that is, divorced from stark facts and conditions.

But by whatever name we choose to call it, planning is essential. The late President Roosevelt laid emphasis on this fact in urging the setting up of the T.V.A. "Many hard lessons," he said, "have taught us the waste that results from lack of planning. Here and there a few wise cities and counties have looked ahead and planned. But our Nation has 'just grown'." There is nothing utopian or vague, however, about the type of planning envisaged by the late President: it is as practical as brasstacks. Again, since being practical includes the facing of facts as they are, there can be no such thing as "clean-slate" planning.

Another popular misconception about the nature of planning which Lilienthal exposes is the popular belief that planning can be divorced from action. It is fundamental that planning and action should go together; that the planner should also be the doer. When planning is divorced from the responsibility for the execution of plans, the planner tends to move further and further away from the very concrete problems with which he is supposed to deal. Conversely, the knowledge that he will be held responsible for putting his plans into effect makes him at once more realistic and practical.

A third point about planning which needs stressing is that effective planning is always "of the people, by the people, and for the people." Lilienthal faces the problem squarely when he writes: "Effective planners must understand and believe in people. The average man is constantly in the mind of the effective planning expert. Planners, whether they are technicians or administrators, must recognize that they are not dealing with philosophical abstractions, or mere statistics or engineering data or legal principles, and that planning is not an end in itself. In the last analysis, in democratic planning it is human beings we are concerned with. Unless plans show an understanding and recognition of the aspirations of men and women, they will fail. Those who lack human understanding and cannot share the emotions of men can hardly forward the objectives of realistic planning."

Finally, it takes authority to execute plans. Adequate finances, legislation, and the power to make decisions "in the field" are some of the tools which a planner needs. There is no likelihood of this freedom being abused: it can be controlled by making the planner strictly accountable for his decisions and actions.

MERIT-RATING FOR SUPERVISORS

AN article on this subject by Mr. C. K. Haas, Personnel Director at the Inland Manufacturing Division of General Motors Corporation, appeared in a recent issue of *Factory Management and Maintenance.*

The merit-rating system for supervisors, as used in this Company, "measures on a percentage scale the degree of efficiency of each supervisor according to ten main types of qualifications for his present job; classifies his promotional responsibilities, and shows any categories in which further improvement of the individual is needed for his present job or for promotion."

The merit-rating forms employed are reproduced in the article, and the author discusses the method of using them. The rating report is a product of considerable research and is under gradual revision. It was drawn up, "not by the personnel department alone but by all the men who use the report. The assistant factory manager, superintendents, general foremen and supervisors discussed the various angles of rating." Thus the system evolved was welcomed as being the result of work done by those for whom it would be used; it was not regarded as an imposition from above.

Ratings are made every six months. Ratings and recommendations are studied by top management, and the supervisor sees his own report; for it is agreed that the system will be of little benefit if ratings are not discussed with the employee concerned.

In addition to these rating forms, confidential cumulative records are kept for information such as the supervisor's address, marital status, education, training background and a detailed account of his work experience. Record is also made of "any significant factors which reflect outstanding merit or achievement on the part of the employee."

The principal benefits of such a system are that:

(1) top management has "an accurate measurement of the ability of each supervisor in his present job, thus indicating where supervision is good, and also where improvement is needed;"

(2) the individual supervisor is shown this "accurate measurement" and can therefore see where he needs to improve;

(3) the individual feels that top management is treating him fairly; since it has been presented with his virtues as well as his failings;

(4) incompetent supervisors can be weeded out, thereby raising the standard of those who remain;

(5) top management has a reliable guide when desiring to make further promotions.

The Company is aware that where the human element enters "even the best rating form will have defects" But it is constantly endeavouring to eliminate these adverse factors, and is convinced that both the employees and the company benefit from the careful use of such a system.

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PLANNING FOR ROAD SAFETY

Recommendations of the Royal Automobile Club.

THE motorist is inclined to regard the pedestrian as a nuisance. The pedestrian is inclined to look upon the motorist as a menace. Merely shifting the blame, however, will not make our roads safer. The problem of road safety needs to be examined and tackled from a number of view-points. Statistics reveal that road accidents are caused by a variety of factors. The chief among these are lack of education and propaganda, defiance of the written and unwritten laws of the road, and inadequacy of the existing road system.

The Royal Automobile Club has listed a number of measures which, we are confident, have an important bearing on the subject of road safety. The Chairman of the Royal Automobile Club suggests that "to supplement propaganda and the practices of good road manners on the part of all vehicle drivers and pedestrians", attention could with advantage be directed to proposals which follow:

(1). Tram and bus stops should *not* be placed at road bends, junctions, and pedestrian crossings, *nor* should bus stops be arranged opposite one another.

(2) More guard rails at danger points should be introduced.

(3) Slippery road surfaces which cause frequent road skidding should be treated with a non-skid top dressing.

(4) Pedestrian refuges at road junctions could often be better placed.

(5) To eliminate blind spots, overhanging trees and hedges should be cut back on corners and road bends.

(6) The use of "courtesy cops" should be initiated or extended.

(7) The rear lights of many vehicles require attention—some still have their side and tail lights partially blacked-out.

(8) Twin rear lights on cars, vans, and lorries would reduce accidents. A white circle or reflex lights on the tail boards contribute to safety at night.

(9) Vehicles should not remain stationary on main trunk roads—they are particularly dangerous at night. The use of bays by the roadside should be compulsory.

(10) The use of rear lights on all bicycles should be strictly enforced.

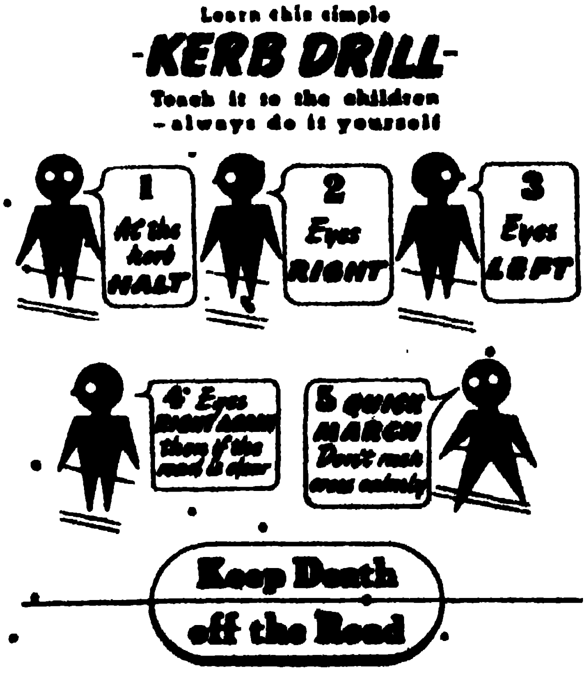
(11) Farm vehicles and timber wagons are a danger at night without adequate lights.

(12) The use of two headlights should be banned in streets which are efficiently lit.

(13) Street lighting should be better and uniform.

(14) Parking restrictions on vehicles during the hours of darkness should be formulated, or, if they already exist, they should be more rigidly enforced.

All these suggestions are simple and eminently practical. Most of them could be adopted in this country forthwith, bringing relief and safety to harassed motorists as well as pedestrians.


Learn this simple
-KERB DRILL-
Teach it to the children
-always do it yourself
1 At the kerb HALT
2 Eyes RIGHT
3 Eyes LEFT
4 Eyes RIGHT AGAIN then if the road is clear
5 QUICK MARCH Don't rush cross calmly
Keep Death off the Road

Take time to live. This is what time is for. Killing time is suicide.

Take time to think. It is the source of power.

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ECONOMICS OF PRODUCTION

In this article, our correspondent discusses the factors at play in British Industry. The same factors are at work in India.—ED.

THE present production position in Britain is as precarious as was the military position at Dunkirk in the spring of 1940. The output of consumer goods for export has decreased considerably since the war for two reasons: (*a*) the number of persons employed in industry has dropped by 2½ millions; on the basis of pre-war output this means an index of production of 85%; (*b*) the output has decreased per man hour; the output per man per week is estimated to be 20% or 30% below that obtaining prior to V. J. Day.

Many causes are responsible for this drop in production. Firstly, absenteeism is high; in the mining industry alone it is between 15% and 20%. Amusements draw large crowds suffering from "war-weariness." On three days in February 1946, 170,000 attended three *mid-week* football matches. This represents a loss of 700,000 man-hours which is equivalent to the construction of 350 houses or the mining of 100,000 tons of coal.

Secondly, consumer goods are in short supply. A substantial part of the nation's production is earmarked for export, and people thus have little incentive to produce goods which they want but cannot buy in the shops.

Thirdly, income tax, originally designed to tax the rich, is now a heavy burden on the masses. Incomes of just over £3 a week are taxed. Many workmen deliberately work short-time in order to escape income tax; in other words, they pack up after reaching a certain level of wages.

Overtime is unremunerative; for, though it is paid at a time and a half, the workmen actually get less than bare time.

Income tax has hindered production and there is a case for a uniform tax for every pound in the case of salaries and wages below £500 per annum.

Fourthly, food is severely limited and monotonous. The present ration is supposed to be adequate from the dietetic point of view; but it is certainly not sufficient for heavy manual workers, such as miners.

Food is monotonous; there is little variety, and an entire absence of flavouring—garlic, mint, onions, spices which makes food appetizing.

Shopping is tiresome. The housewife has to queue for most foods and perhaps go away empty-handed after having spent an hour or more in the queue.

Fifthly, there is a lot of faulty thinking. It is a popular belief that a fair day's output is detrimental to full employment. Though this fallacy was exploded by Henry Ford nearly half a century ago, it still persists. Many believe that a new era has dawned and that high wages can be earned without a high rate of output.

Sixthly, there is a sad depreciation in the motive to work. During the war, everybody did his utmost in order to help win the war. Now that the crisis has passed, the motive has also gone.

The upshot of all these factors is that there is a continuous demand for increased wages irrespective of output. This adds to the cost of goods and services. As long as commodities continue to be in short supply, the harm done is not appreciable ; but when competition starts again in the post-war period, high prices will be a major problem in holding the export market. When this happens unemployment will follow and it will lead to a lower standard of living.

The effect of the rise in the cost of all goods will be to reduce the purchasing value of money, thus resulting in a vicious spiral of rising wages and rising prices. The cost of living is already 30% above the immediate pre-war level, and unless this spiral is arrested, inflation is bound to result.

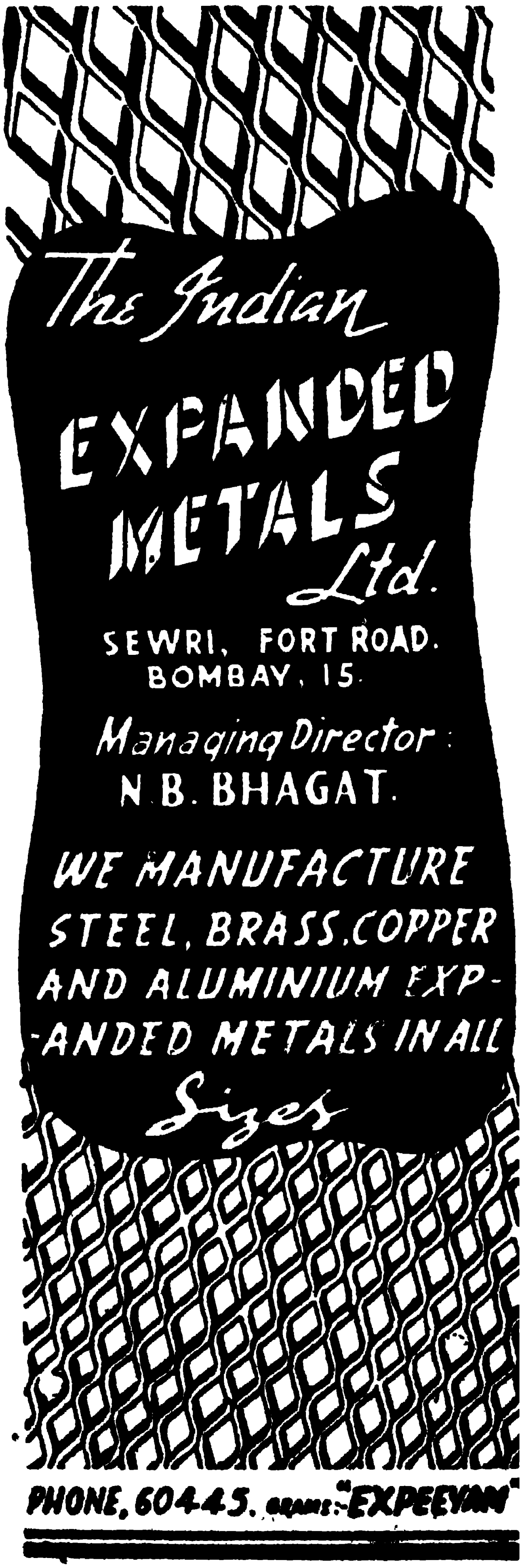
While there is an urgent need for strict price control until there is a better balance between supply and demand, the greatest need of the moment is to keep prices down below the pre-war level as far as possible. This can only be done by increasing output, improving methods, using the most up-to-date machinery, and utilising the best in management technique. If this is done, fresh profits will follow which will enable the workers to get better wages, and at the same time enable Government to pay for the advanced social services which they have promised in the post-war era.

* * *

The Right Things

The right clothing, the right tools, the right precautions and the right attitude mean a job done the right way—the safe way.

DON'T STOP WORK. STOP WORK ACCIDENTS.



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THE USE OF SYMBOLIC LANGUAGE

WHENEVER a traffic sign or a brief notice has to be displayed, the use of symbolic language for this purpose is always preferable to the use of any particular language. The reason for this is that symbolic language is easier to understand.

This advantage applies particularly in the case of a country like India where there are innumerable languages and scripts in use and where the percentage of illiteracy is abnormally high. If a notice has to be put up, it is usually printed in English and in the several vernaculars spoken in the district. These vernaculars are often so many that several of them have to be omitted. The result, more often than not, is that important injunctions to the public are frequently not understood and, therefore, ignored.

The solution to this problem is, as already suggested, to use symbolic language in the place of the written word. Pictures or symbols can frequently be substituted for the written word, and this should be done whenever possible.

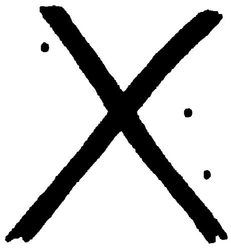
In the symbolic language developed by the Safety First Association of India for Traffic Signs and presented to the Traffic Advisory Committee of the Govt. of India, three symbols are used in addition to the pictures. They are :

A tick ✓ signifying "Yes"
A cross ✗ " "No"
A triangle △ " "Be Careful"

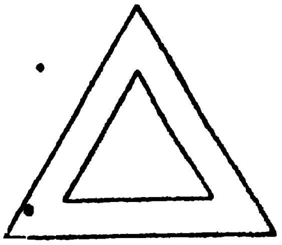
Apart from these three symbols, quite a few others are already widely used; for example, male and female figures show which convenience should be used by each sex in public buildings, trains and other places. Direction arrows are frequently used to convey the meaning that traffic should follow the direction of the arrow. A triangle is similarly used quite frequently to indicate the need for care; a boy running towards the road is displayed on most of our roads to indicate schools in the vicinity. It will be generally admitted that these signs convey their meaning far more effectively than the written word. The suggestion is therefore put forward that the number of symbols now in use should be gradually extended.

In the sketches in this article, we have illustrated several suggestions in this behalf.

YES 1

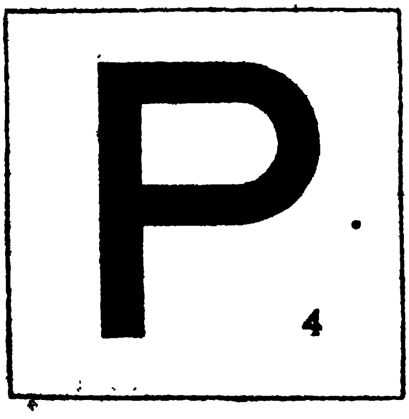


WRONG 2



BE CAREFUL 3

Figures 1, 2 and 3 are symbols, as already stated, for "Yes," "No," and "Be Careful" respectively. Figure 4 shows the official sign for parking.



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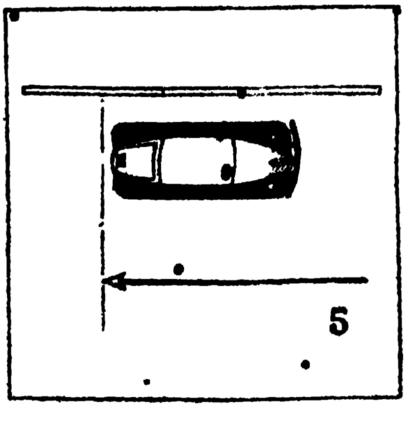

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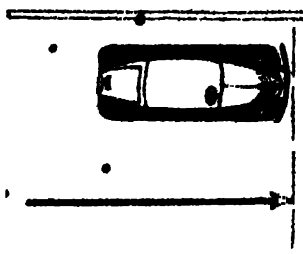


6

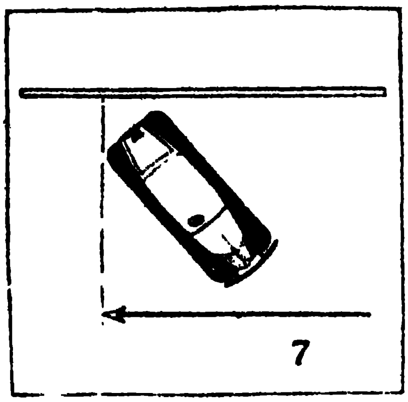
"ELECTRICITY—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

Charles W. Eliot,
(Late President of Harvard University.)

FERRANTI

a name that has been associated with the triumphs of electricity during the past sixty years.

It is felt that this sign is not as satisfactory as those represented in figures 5, 6, 7, 8 and 9, because the official sign does not show how vehicles should be parked nor does it give the limits of the direction in which they should be parked.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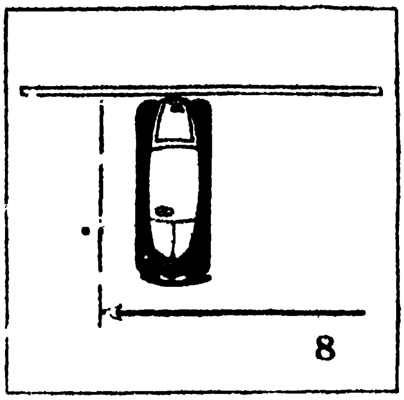
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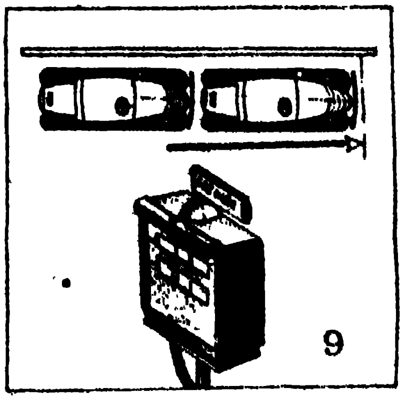
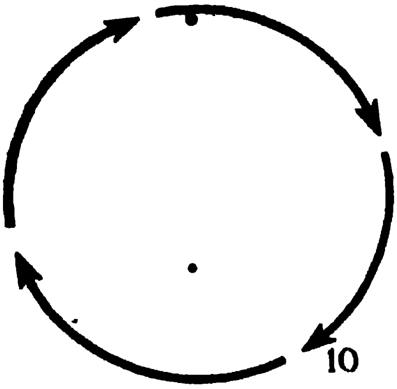

9

A parking symbol appropriate for use at taxi-stands is illustrated in figure 9. Figure 10 shows the sign for a " roundabout." Figure 11 shows our suggestion for a " No Entry " sign. The direction arrow has been crossed out in order to indicate that driving in that direction is not allowed. The suggestion for a " Stop " sign is shown in figure 12.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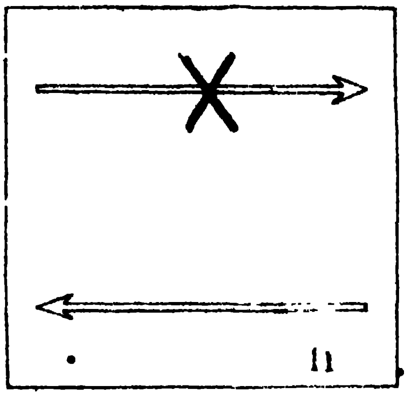
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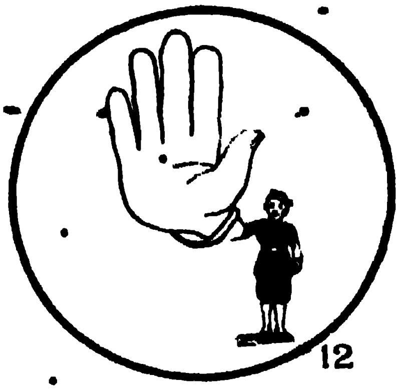
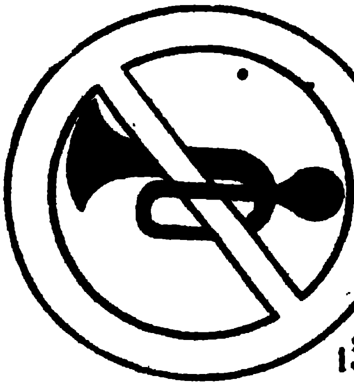

12

The official sign indicating " No Horn Blowing " is shown in figure 13. This same prohibition, we suggest, could be made more effective by using the symbol illustrated in figure 14 which indicates that a horn may be carried but that it must not be blown. Figure 15 gives our ideas of a symbol indicating that horn blowing is not allowed during certain hours, namely, between 12 midnight and 6 in the morning.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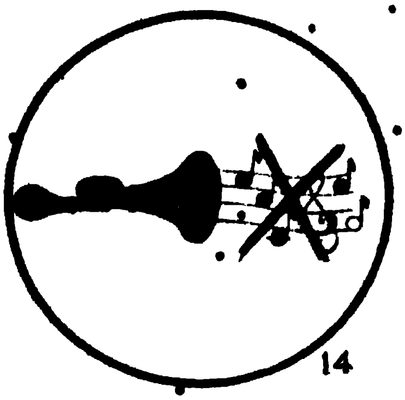
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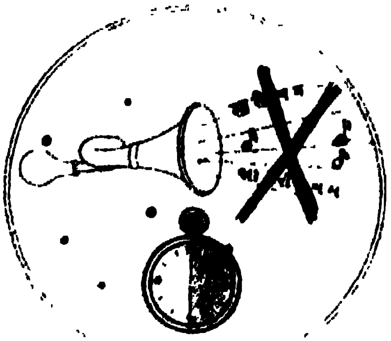
15

All these suggestions are purely off the record, as it were, and could without doubt be considerably improved upon. But before the use of symbolic language is extended as suggested above, the public should be made thoroughly familiar with one or two symbols only at a time. To proceed too quickly would only lead to confusion.

BUILDING TODAY

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CM—101

LABOUR AND PRODUCTION—I

MOOD OF THE WORKERS

[Recent issues of the "Financial Times" contained a series of articles by their Labour Correspondent dealing with the much-discussed subject "Labour and Production". As the position indicated by the Correspondent equally applies to Indian industrial conditions, particularly in the post-war period, we have obtained special permission to reproduce these articles for the benefit of our readers. The following is the first of the series.—ED.]

NOSTALGIA for something approaching the "post-Dunkirk" spirit in industry is understandable. It presupposes, however, the possibility of recapturing a national unity the elements for which no longer seem to exist.

Meanwhile, national difficulties pile up as production lags. The practical problems associated with the changeover need not be underlined. Of the many less objective reasons for low output perhaps the most important is that, according to all reports, the workers seem to have no heart in it. Here the causes are highly complex. The current mood of the individual is partly a product of general weariness. For years long hours were worked often under trying conditions of blackout, blitz and long journeys to and from the job. Food has been, and still is, on the short side and very monotonous. Opportunities for real relaxation are few. Most people feel they need a rest. Now that the war is over they are prepared for an easier spell.

Tendency to "Ease-Off": The returning Service man naturally takes time to settle down. After years of regimentation the longed-for "Civvy Street," with its perhaps rather disappointing reality, its call for self-discipline and its wide range of different problems is rather disconcerting and unsettling at first. Like the civilian war worker the returned warrior is inclined to feel that he has shouldered the nation's main burdens long enough and is entitled to take things relatively easy for a time.

Superimposed on the mood of the individual is the mood of the mass. This, and its reaction on production, is strongly influenced by class outlook and aims. Here the big strike wave in the United States, where the issues are more clear-cut, is instructive. In Britain the issues are blurred and confused by the outcome of the General Election. A rather vague desire not to embarrass the Labour Government is the main reason why underlying conflicts of interest have not yet come more into the open.

Instead, these conflicts are sidetracked into cynicism or sublimated into a defensive strategy. It is probably difficult for a busy Minister or civil servant mentally to project himself into the position of the man or woman at the bench or machine, in the pit or on the dockside. In this position, however, given the very limited opportunities for seeing the situation as a whole and taking a "statesmanlike view," it is understandable that there should be a measure of disillusionment.

The outstanding factor undoubtedly is that the average worker cannot see any immediate positive gain from his sustained efforts during the war. After the last war, there was no bitter memory of prolonged unemployment, there was the definite gain of the 48-hour week, against the 54, there was a brief and exciting, if thoroughly disorderly, boom with

It might have been avoided!

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LAHORE ✱ DELHI ✱ KARACHI ✱ COLOMBO ✱ LUCKNOW

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YOU CANNOT AFFORD TO HAVE DIRTY OIL IN YOUR ENGINE

THE **STREAMLINE** FILTER CLEANS IT TO PERFECTION

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little popular consciousness of the inevitable slump which followed.

Post-War Adjustment: This time none of these stimulants is present. In addition, there is a somewhat painful adjustment to "peacetime" rates for piecework and efforts on the part of some employers to reassert their "managerial rights." There is the disorganisation due to retooling and a whole new batch of transition bottlenecks which the workers are inclined to put down to managerial or official inefficiency. Sometimes, of course, this view is correct. Even if it is not, no one takes the trouble really to explain.

The inter-war psychology is encouraged by a score of parallels. Women, who have been so highly praised for taking the places of the men during the war, are now being unceremonially put back on women's work—at women's rates of pay. Dilutees are expected to return to their former jobs often at lower wages. The "temporarily" unemployed in the former depressed areas are treated in much the same way as they were between the wars. There is still the means test and officials are accused of being up to all their "old tricks."

Sharp Drop in Wages: Over the field of what was mainly war industry weekly earnings have tended to fall sharply as overtime and the flow of piecework at good prices have come to an end. More and more individuals among the organised workers are realising that, in terms of hourly rates, their real wages are less favourable than in 1939.

Working conditions in many of the industries now endeavouring to restore a labour force of pre-war size compare very unfavourably with those in most war factories. Buildings are sometimes old, dirty, badly laid out and without welfare amenities such as washing accommodation and good canteens. Together with the lower wages usually offered in these peace-time industries the relatively poorer working conditions prompt workers to cling as long as possible to their war-time jobs, whether there is work for them to do or not. Here they are aided and abetted by the working of the labour controls and, sometimes, by employers wanting to retain a labour force intact pending retooling.

Since the war-time machinery of joint consultation has largely fallen into desuetude, it is nobody's responsibility to explain. Hence the man at the job is not encouraged to look beyond his immediate environment, which seems to him very much the same as before the war. In the circumstances his reaction is inclined to be pre-war too.

A contributory cause of production apathy is the dearth and dearness of consumable goods. There is little direct incentive to strive for higher earnings because the goods the worker wants, to buy with the money are either unobtainable or ridiculously expensive. P.A.Y.E. at a high rate on marginal earnings also tends to discourage effort.

Dunkirk provided the shock which touched off a burst of national energy and sustained democratic initiative unsurpassed in British history. Output was the sole criterion; nothing was allowed to stand in the way. Through their joint production committees the workers themselves played a considerable part in reorganising war production and maximising output. How the prevailing mood has been intensified over the past few months will be examined in a subsequent article, which will also point to possible remedies.

PAINT—PROBLEMS?

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Safety Instructions for the Man on the Job

CARDS

(Cotton Mills)

1. Be sure cylinder is stopped before opening or stripping a door.
2. Use a light stick or long-handled brush to remove flying.
3. To prevent dangerous bouncing of the roller, apply light, steady pressure on the stripper ropes until cylinder begins to turn under its own weight.
4. Remove drive belt before examining cylinder wire closely or repairing cards. Turn cylinder slowly by hand.
5. Use a duster, mop or brush to clean cards, never rags or hard waste. Do not place mop or brush under cards.
6. Be sure stripper gigs on vacuum stripper close after each stripping operation.
7. Report any defective or unguarded machines.

OPENING AND PICKING

(Cotton Mills)

1. Use standard tie cutter ; keep your face back when cutting bale ties ; keep other persons away.
2. Wear gloves and the face and eye protection provided.
3. Keep fire doors and fire equipment clear. Allow ample working space between bales.
4. Remove all ties and buckles from the floor ; keep floors clean of air-deposited lint.
5. Always remove beater belt before working on beater ; fasten lock bar in place before raising cover.
6. Never clean chokes or open doors until picker comes to a full stop. Be sure power is off. Keep rags and waste away from the beater or fan shaft.
7. To start new lap, use palms of both hands, never your finger tips.
8. Use only a rake or special tool to remove charred cotton.
9. In case of fire, give alarm, stop feed, open windows, and stop machines.

SLASHERS

(Cotton Mills)

1. Push, do not pull, beam ceiling chains.
2. Wear snug-fitting clothing with long sleeves to prevent burns or scalds.
3. Check safety valve and steam control valve daily. Open steam valves slowly.
4. Keep floors free of water, size or starch.
5. Keep front delivery roll guard in place.
6. Be sure steam valve is shut before opening the size kettle lid ; then open carefully.
7. Stack empty beams neatly and in the clear ; block empty beams to prevent rolling.
8. See that everyone is in the clear before starting splashers.

WEAVING

(Cotton, Woollen and Rayon Mills)

1. Wait until fixer's signal is removed before starting the loom. Looms should not be repaired while running : stop motor or lock shipper.
2. One person should not start the loom while another pushes back the shuttle.
3. Keep your hands on bottom sides of cloth roller when winding it up to starting position. (For cotton mills only.)
4. Fixer should place shuttle on cloth while working on the loom. Only safe tools should be used.
5. Use only round-pointed scissors.
6. Keep your hands away from moving parts of loom.
7. When lay ends are close together, stop adjoining loom before working on lay end.
8. Keep bobbins, oil and grease off the floor.
9. While cleaning, stay on the floor ; don't climb on the loom.

CLOTH ROOM

(Cotton, Woollen and Rayon Mills)

1. Never operate shear unless all guards are in place.
2. Stop folding blade as it travels away from you so it cannot catch you when it starts up. (For cotton mills only.)
3. Keep cloth rolls and tubes in the right place. Always stack cloth safely.
4. Never use your fingers to straighten the selvedge on cloth being sheared.
5. Stop shears and folders before cleaning.
6. Do not step on or jump over cloth trucks.
7. Lift with your legs and keep your back straight.

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VICTORY
OVER
FIRE

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It's good to beware of accidents: equally important to make sure, in case an accident does happen that your dependents are secure. Eagle Star accident policies are particularly economical for members of the Association. For example:

Rs.10,000 *for death by ordinary accident*

and **Rs.20,000** *for death by accident to a passenger train, tram, lift, omnibus or other licensed vehicle in which you are travelling*

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President Truman on "Tolerance"

A call to master the "science of human relationships" as possibly the only defence against the atomic bomb, was made by President Truman in addressing the Fordham University centenary celebrations.

"Civilisation cannot survive an atomic war. Nothing would be left but the world reduced to rubble," said the President. There is profound truth in the opening words of the Charter of the United Nations Educational, Scientific and Cultural Organisation. The Charter declares 'since wars begin in the minds of men, it is in the minds of men that defences of peace must be constructed.'

"So we must look to wipe out ignorance which threatens a catastrophe. Ignorance and its handmaidens--prejudice, intolerance and suspicion of our fellow men bread discators, and they breed wars.

"Intelligent men do not hate each other just because their religion may be different, because their language and habits may be different, or because their national origin or colour may be different. It is up to education to bring about that deeper international understanding which is so vital to world peace.

"Intelligent Americans no longer think that merely because man is born outside the boundaries of the United States he is not the concern of ours. They know that in such thinking lie dictatorship and tyranny. They know from sad experience that dictatorship and tyranny are too ruthless to stop at the borders of the United States and conveniently leave us alone.

"They know what World War II and the atomic bomb have taught them—that we must work and live with all our fellow-men if we are to work and live at all.

"There is, at least, one defence against this bomb. That defence lies in our mastering the science of human relationships all over the world. It is the defence of tolerance and understanding, of intelligence and thoughtfulness. When we have learned these things, we shall be able to prove that Hiroshima was not the end of civilisation but the beginning of a new and better world."

* * *

Leadership in the Office

The office manager (or supervisor) may be too lenient, in which case there will be a generally lax attitude towards work, conduct, and attendance; the workers will impose upon good disposition; they will exhibit lack of respect; reprimands will have less effect; praise will fail to stimulate them.

Undue severity will produce bad results, too. Staff will take avoiding action; will display a sullen attitude; loyalty will suffer; volume of work will decrease; opposition to the leader's designs will be evident though not necessarily obvious.

The most important point perhaps is never to ignore staff, for if the job --and the people who do it--are not important to the leader, then the work is not important to the employee. Take interest in *all* staff members, and don't have favourites. If work is done well, give proper praise, but praise the work and not the worker. Give the praise in public in the presence of others as a proof of your sincerity. Don't hesitate to criticise, when it is desirable, but criticise the method and the result and not the intention, and do not criticise without doing something constructive about the cause of the criticism. In all cases do it in private. Consider the feelings of staff members; but be just and they will be respectful. Do otherwise, and they will be resentful.—*The Factory Manager.*

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Varieties:-
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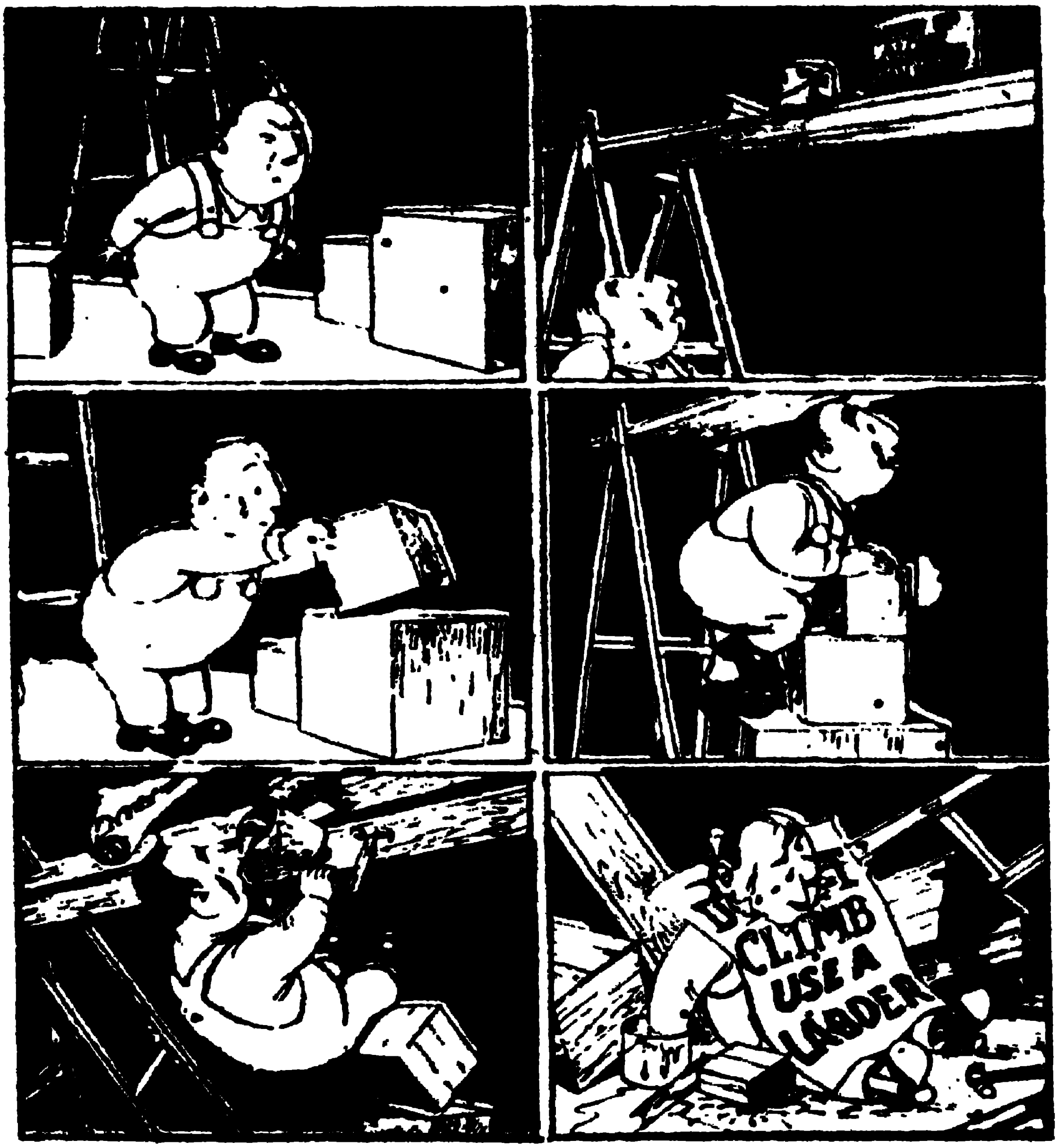
EFFICIENCY NEWS, July 1946

ADVENTURES OF GEORGE



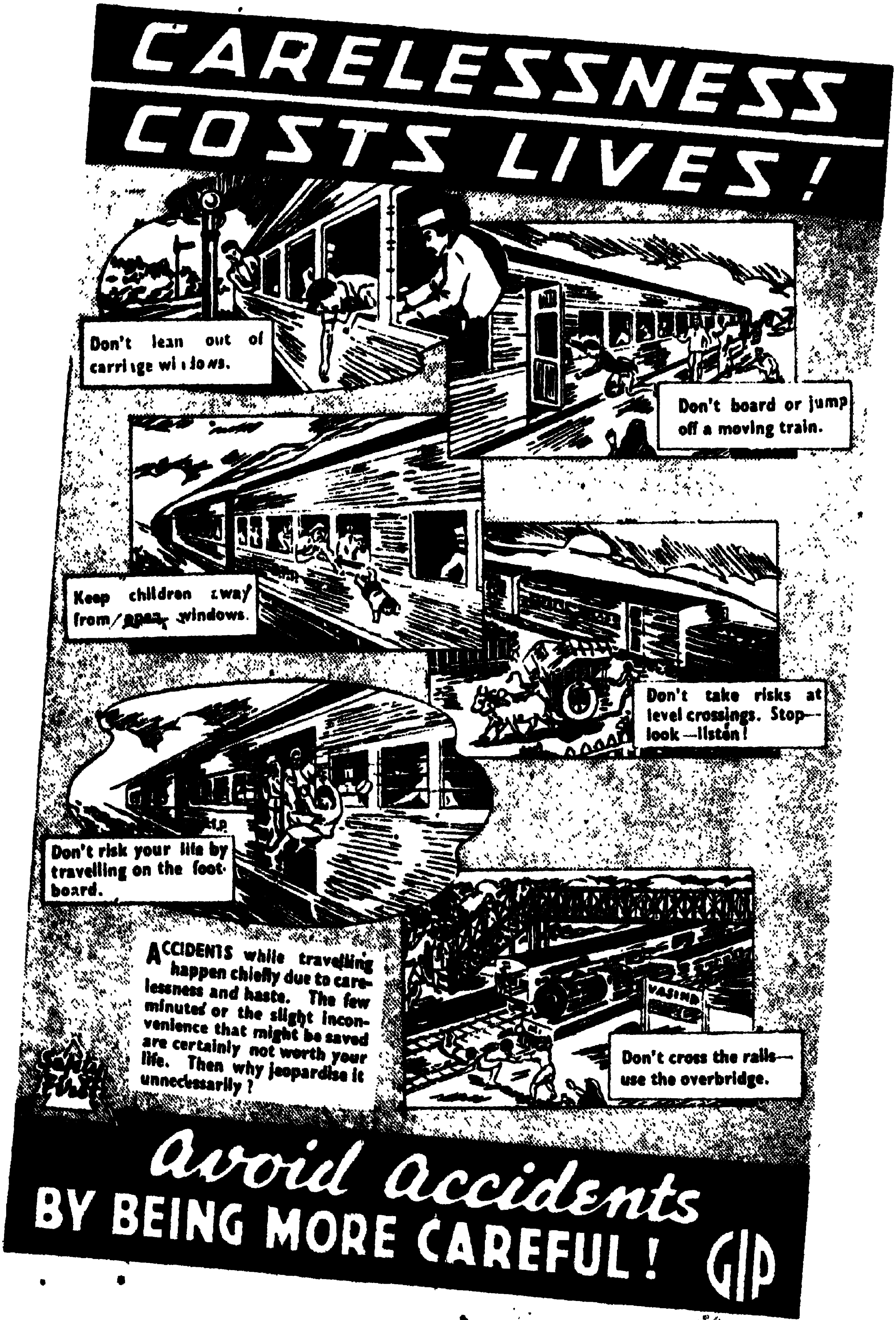
Ambition drove young George too hard
And brought him to disaster.
He wrongly thought, 'I'll shift this guard
Then work—and earn—much faster.'

But what George made was not more cash
As he'd anticipated ;
He made the Aid Post in a flash
With one hand lacerated.

Because the guard had been removed
At law he was 'non-suited '
His negligence was clearly proved
And he was prosecuted.

Thus did he learn ' More haste, less speed '
Is part of Safety's simple creed.

Courtesy—R.S.P.A.



CARELESSNESS COSTS LIVES!

Don't lean out of carriage windows.

Don't board or jump off a moving train.

Keep children away from ~~open~~ windows.

Don't take risks at level crossings. Stop—look—listen!

Don't risk your life by travelling on the foot-board.

ACCIDENTS while travelling happen chiefly due to carelessness and haste. The few minutes or the slight inconvenience that might be saved are certainly not worth your life. Then why jeopardise it unnecessarily?

Don't cross the rails—use the overbridge.

Avoid accidents BY BEING MORE CAREFUL!

GIP

THE DUTIES OF A LABOUR DEPARTMENT

THE industrial development of India depends not only upon the establishment of new industries but to a large extent upon industrial peace. In order to ensure industrial peace, especially where a large number of people are employed, it is essential to have a Labour Department. This department should have a definite policy to pursue and definite duties to perform.

The art of managing human beings is an extremely difficult one, because of the infinite complexity of the human element. It is certainly no easier than engineering, purchasing, costing or planning. Indeed, all these are today specialised sciences, whereas the subject of labour relations is very largely an art, since human emotions and behaviour are largely unpredictable.

Whereas most functions of modern industry are dealt with by specialised departments, the human element tends to be neglected. Progressive firms delegate this work to a specialised person who may be designated either Employment Manager, Labour Manager or Personnel Manager. He is invariably assisted in his work by a team of trained men.

The aim of the Labour Department has been defined by J. H. Fullwood, one-time President of the Institute of Labour Management, London, as follows :

> "The aim of a Labour Department should be to direct and co-ordinate (that is, to harmonise) the human relations of a firm so as to get the maximum necessary production with a minimum of effort and friction and with a proper regard for the genuine well-being of the employees."

The main functions of the Labour Department can be placed under two main headings : (1) Supply of personnel ; and (2) Conditions affecting personnel. These two main functions may further be divided into six divisions :

(*a*) **Employment.**—This deals with all the work entailed in securing a willing and effective working force, and covers selection, introduction, following-up, promotion, transfer and recording.

(*b*) **Health and Safety.**—This covers all the work of maintaining the establishment in such a condition that the health and physical integrity of the operatives is preserved and improved ; namely, physical examination, first aid, treatment of accidents, systematic plant inspection and accident control, reduction, prevention and elimination of diseases, systematic checking up of working conditions, study of absenteeism, fire hazards, occupational hazards and recording.

(*c*) **Education.**—This covers all the training activities of the firm whether in relation to apprentices, executives, supervisors, or workers, as well as methods used, such as bulletins, notice-boards, suggestion schemes and so forth.

(*d*) **Research.**—This covers those activities of analysis of data which are essential for securing facts on which decisions about terms and conditions of employment can be based ; namely, job analysis, job specification, fatigue and motion studies, cost of living and other relevant factors.

(*e*) **Employee Services.**—This division deals with all the miscellaneous welfare activities, such as canteens, gratuities, recreation, etc., which are less directly related to the production problem than such matters as selection and training for the job.

(*f*) **Employee Representation.**—This covers all efforts to settle the terms of the Labour Contract and to adjust difficulties which have arisen, either as to these terms or their fulfilment. Measures to foster harmonious relations between workmen and management are also dealt with by this division.

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If so, You Need

MALLOCK-ARMSTRONG

Ear Defenders

Six sizes; Rs. 4/- per pair each in a metal box.

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P. O. BOX 767,
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133, ESPLANADE ROAD,
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USE Swastik Double Boiled Linseed Oil. For Swastik Double Boiled Linseed Oil is prepared to Indian Stores Department Standard Specification from pure Linseed. Available in drums of 40 and 50 lbs.

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double boiled
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WRITE THE LAST LINE AND WIN Rs.5/-!

There once was a motorist gay.
He was—but he isn't today !
He got by for a while,
But he drove his last mile.

Any subscriber to "Efficiency News" can enter. All you have to do is to supply the missing last line that rhymes with "gay" and "today" and deals with safety. A book prize to the value of Rs. 5 will be awarded to the best entry. The decision of the Editor will be final. Entries, cut from the magazine with the missing line filled in, should reach the Editor, Efficiency News, Electric House, Fort, Bombay, not later than 20th July, 1946. Maybe the list of hazards below will help you.

Speeding
Poor lights or brakes
Daydreaming at the wheel
Driving after drinking
Passing on hills or curves
Driving on wrong side of road
Following car ahead too closely
Passing without sufficient clearance
Disobeying traffic signs and signals
Weaving in and out of traffic lane
Hogging right of way
Bullying pedestrians

You may or may not care to use these hazard hints for your last line. But WATCH OUT for the hazards !

D.Q.D

This well-known range of synthetic enamel finishes will be available again very shortly. Register your order now

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Post War Reconstruction??

IF IT REQUIRES:-

WHEEL BARROWS,

CONCRETE MIXERS OR

ROAD ROLLERS

THEN SEND YOUR ENQUIRIES TO

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(AGENTS FOR STOTHERT & PITT CONCRETE MIXERS AND "GALION" ROAD ROLLERS)

BRANCHES: BANGALORE, OOTACAMUND, TRICHINOPOLY AND HYDERABAD (DN.)

WHY ???

THIS three-letter question—small isn't it ? Small as it may seem in size it certainly packs a lot of food for thought if we would only take time out and ask ourselves " Why ?" along the following lines.

Why—do I take chances every day with the possibility of a falling object falling on my toes causing me to lose from three to six weeks' work when safety shoes are available and cost no more than ordinary shoes ?

Why—do I purchase safety shoes and then leave them at home or in my locker ?

Why—do I take chances time after time of losing my eye-sight when I know that goggles would protect my eyes from flying objects ?

Why—do I walk under suspended crane loads when I know if a cable should break it might mean instant death ?

Why—do I place my hand in dangerous machinery when I know it may mean the loss of same ?

Why—do I leave tools and materials lie around in the work area when I know they might be the cause of serious injury to myself or fellow workman ?

Why—do I attempt to light torches and furnaces before I check to see that everything is in perfect order ?

Why—do I attempt to lift or push objects when I know they are too heavy to move without help ?

Why—do I attempt to remove foreign objects from my own and fellow workers' eyes when I know that medical facilities are provided for this purpose ?

Why—do I fail to report to the Medical Department for first aid when I know this negligence may lead to serious infections ?

Why—do I indulge in horse play when I know someone may be seriously injured ?

Why—do I have the " I don't care " attitude in the wash and locker rooms and do things that I would not do at home ?

Why—do I throw lunch scraps and rubbish around promiscuously on the floors while at work when I would not do the same at home ?

Why—do I leave hook-up chains suspended from a crane hook while I am using a cable to make a lift ?

Why—do I continue to use defective hand tools rather than turn them in for the necessary repairs ?

Why—do I take the attitude that since nothing has happened to me that I will be safe from serious injury in the future ?

Why—do I take chances on unsafe hook-ups when a safe hook-up means just another minute or two in performing the operation ?

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EMPLOYMENT OF WOMEN WORKERS

SUGGESTIONS TO EMPLOYERS

One of the more remarkable achievements of the recent war was the role played by women in industry. Answering the call to relieve men for combat service, the women of the warring nations took over jobs, of every kind in office, workshop and factory. To begin with, however, all was not smooth sailing. The invasion of business and industry by women workers created new and perplexing problems. At that time of crisis, the British Ministry of Labour and National Service put forward some suggestions to assist employers engaging women workers. The crisis is now past; but the suggestions just referred to are too valuable to be forgotten. The pamphlet issued by the Ministry of Labour and National Service, is, therefore, condensed below for the benefit of the numerous employers in this country who recruit or intend to recruit women workers.—Ed.

Women Personnel Officers: If the number of women expected to be employed is substantial, it will be found advantageous to make an early appointment of a suitable Woman Personnel Officer who should be given an opportunity of acquiring some knowledge of the operations on which women are to be employed. She should also be made familiar in general terms with the firm's organisation, its wage rates, hours of work, and other conditions of employment.

Her own position in the management should also be made clear to her, together with the limits of her personal authority.

Functions of a Woman Personnel Officer: While it is appreciated that the functions of a Personnel Officer in any individual establishment must necessarily depend on the qualifications and experience possessed by her and on the degree to which she acquires the confidence of her managerial colleagues, the duties described in the following paragraphs should be regarded as appropriate to be entrusted to a properly qualified person.

The Woman Personnel Officer should be made responsible for interviewing, selecting and engaging the women; for providing the women engaged with all necessary information regarding wages, hours, conditions of employment, etc., and thereafter, for maintaining a general responsibility for the physical well-being of the women by ensuring adequate canteen, rest room and other facilities and by co-operating fully in the firm's medical service arrangements. The Personnel Officer should also assist in securing the mental well-being of the women, by keeping in touch with them especially during the first month of employment, and eliciting by conversation any worries or grievances they may have.

It should be a function of the Personnel Officer to consult with and advise the factory management on all matters affecting the women, including interdepartmental transfers on grounds of health or temperament.

The dismissal of women should invariably be effected in close consultation with the Personnel Officer and through the Personnel Department. It has been found advantageous by some employers to place the responsibility for discharges on the Personnel Department. In those cases any Department wishing to dispense with the services of an individual notifies the Personnel Department accordingly, giving the reason: the Personnel

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Officer, in the light of the circumstances, then either tries to place the individual in another Department, or issues a discharge note. This practice is recommended.

It is recommended also that in cases of proposed dismissal for disciplinary reasons, care should be taken to ensure that the worker concerned has an opportunity of stating her case to the Personnel Officer before the final decision is taken.

The Personnel Officer should also interview every worker tendering notice to leave her employment in order to find out the reason, which, when ascertained, should be recorded. Much valuable information may be gathered in this way and pointers obtained as to conditions requiring adjustment. For example, a marked number of secessions, or even of discharges, from one Department will indicate the necessity of an enquiry into the causes.

Interviewing of Candidates: The interviews held prior to recruitment should be so arranged that applicants are not kept waiting an unreasonable time; if the waiting period extends over the dinner hour, the applicants concerned should be provided, wherever practicable, with a meal or snack free of charge.

The period of waiting should be spent in a reasonably comfortable room provided with benches or other seats.

The application form to be completed should be as simple as possible, not only in regard to the information for which it asks, but also in its "lay-out." An applicant may not do herself justice at a subsequent interview if she has just emerged from a struggle with a complicated application form.

The interview itself should be conducted on the basis of a mutual service being rendered; the employer needing labour on the one hand, and the applicant being willing to supply it on the other. So far as possible, the interview should be so directed as to create a sympathetic atmosphere in which the applicant is encouraged to do justice to herself.

In cases where a medical examination is required, care should be taken that this is arranged in conditions of adequate privacy and with a due recognition of the fact that many of the women concerned are probably unused to the idea of a medical examination except when they feel ill.

The arrangements for these interviews and the way in which they are conducted are important from the firm's point of view. They provide an opportunity for applicants to be given a good first impression of the firm which will help to tide over any initial difficulties if the applicant is engaged, and in any case will probably be passed on to the applicant's friends and acquaintances.

On Engagement: An applicant who is engaged should be given a clear statement of the rate she is to be paid, the hours she is normally to work, and the general conditions appertaining to her employment. If printed Works Rules exist, she should be given her copy and advised to make herself thoroughly acquainted with them.

She should also be told of the canteen, cloakroom arrangements, etc., and of any special accident prevention precautions she will be expected to observe.

When women are being engaged in numbers, it will probably be found more convenient to give them a collective "talk" on the morning they report for duty.

On Reporting for Duty: New employees reporting for duty should not be allowed just to "drift" in, without ceremony. They should be formally made known to their work-woman or supervisor, who should take some pains to make them feel welcome. Care should be taken to see that the new employee knows her way about, *e.g.*, to the cloak-rooms and canteen. It is an advantage to entrust a new employee to the special care of a suitable existing employee for the first few days : this helps to take the edge off the natural feeling of strangeness.

The treatment accorded to a new employee is likely to have a lasting effect and will amply repay the time expended on it.

During First Month of Employment : Experience shows that the highest turnover of labour occurs during the first month of employment and as a high labour turnover is very costly, every effort should be made to avoid it. It is a considerable help in this direction to adopt a definite follow-up plan with each new employee. The plan need not be elaborate, but it should form a recognised part of the duty of a Woman Personnel Officer. In its simplest form, it might mean that the Woman Personnel Officer or, in a large organisation, one of her assistants, would have a word with the employee herself and with her supervisor each day during the first week, twice during the second week and once in each of the two succeeding weeks. The " word " could be just an enquiry as to progress, etc., and should not appear too formal to the employee. Opportunity would thus be given to arrange transfers where that appeared to be desirable and, in any case, the right " word " spoken in season to the new employee may well be very helpful not only to her but to production.

Working Hours : Employers engaging women should give careful consideration to their working hours. Experience is conclusive that long hours impede production and while no common standard can be laid down for all types of work, it can be accepted that in general the maximum should vary only between 48 and 56 per week.

Employers are advised to undertake output tests themselves in their own establishments in order to find the optimum for their own production.

Apart, however, from the actual length of the hours required per week, serious consideration must be given to their arrangement if the best use is to be made of the new woman labour. In particular, the hours must permit of each woman having reasonable time to do her shopping at convenient hours. In the absence of such an arrangement, bad time-keeping, absenteeism, and discontent are likely to result.

It is important that consideration should be given to the possibility of arranging part-time employment for married women who cannot devote their whole time to factory work. Many women workers will possibly have young children to get off to school or nursery before they can come to work. Arrangements should be made to accommodate their hours to those requirements.

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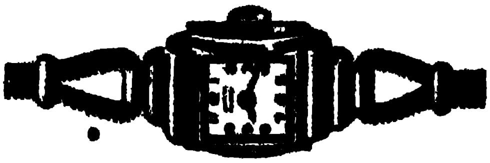

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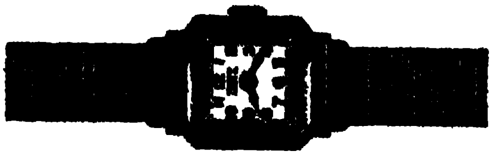

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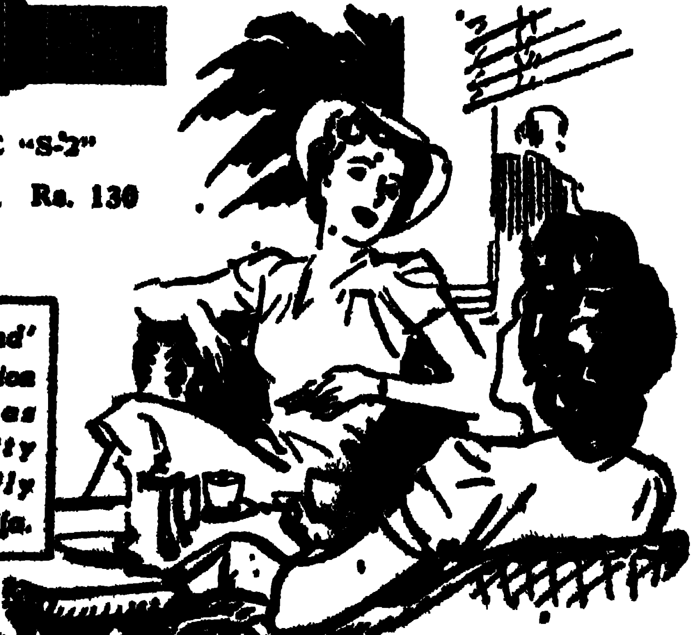

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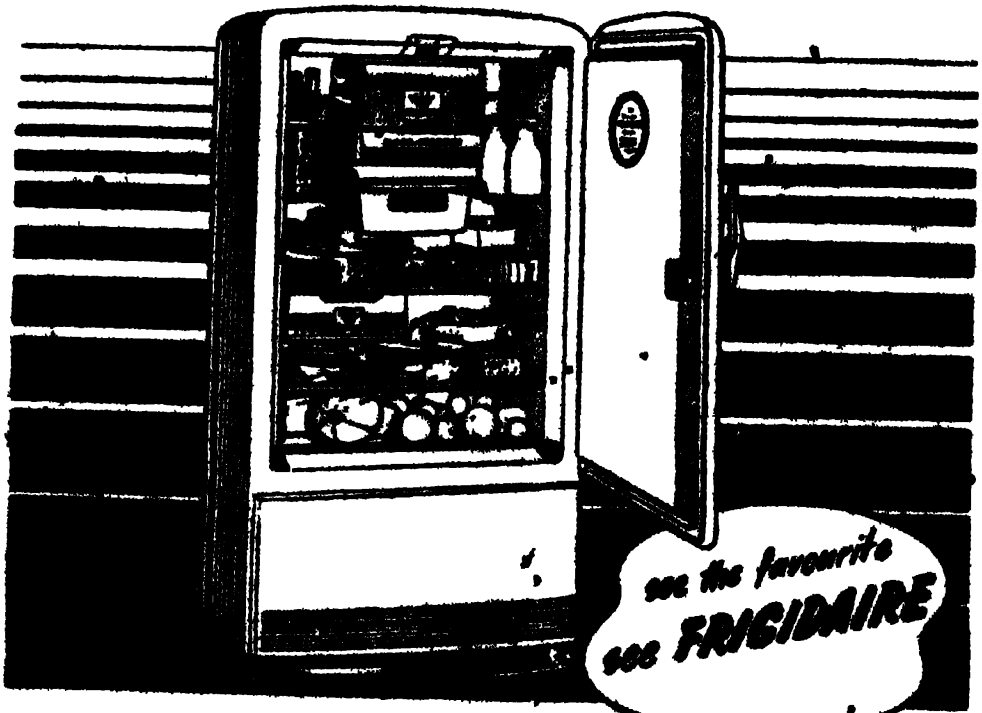

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EFFICIENCY NEWS

Vol. XIII. No. 8 AUGUST 1946

RAISING OUR STANDARD OF LIVING

SINCE the Bombay Plan saw the light of day at the beginning of 1944, a great deal of time and thought have been spent in devising schemes to raise the standard of living of our people. Opinion is unanimous regarding the urgency of this problem. But unfortunately, there is little agreement as to the methods to be adopted in solving it.

We are not interested just now in an academic discussion as to what constitutes a satisfactory standard of living. Viewed concretely, everyone will agree that the immediate needs of our agricultural and industrial workers are: a sufficient quantity of balanced food, enough clothing, adequate housing, proper public sanitation, improved medical facilities, at least an elementary education, suitable employment, and security in retirement. Our people also need the leisure to enjoy these amenities which, by common consent, are regarded as essential to civilized living.

There is a widely prevalent idea that all these benefits can be secured by extorting higher wages from employers, by successfully agitating for shorter hours of work and by producing only as little as is necessary to hold one's job. As long as this belief prevails, it is certain that our standard of living will never improve—that it will in fact steadily deteriorate. *The fallacy that high wages mean a high standard of living, irrespective of output, is at the root of our low standard of living.*

Paradoxically enough, idealistic reformers are largely responsible for the low standard of living which prevails in our country. This state of affairs they bring about by giving indiscriminate encouragement to false theories and principles. Agitation and strikes frequently lead to higher wages, more leave and holidays with pay, shorter hours of work, and a host of other concessions. The result of these attempts to pacify labour is obvious: the cost of production goes up and prices keep on mounting in every direction. As long as output does not increase, the cost of concessions to workers has to be added to the cost of commodities and services; so that, while the workman gets more than he used to, he is required to pay correspondingly more for his daily requirements. We are then faced with a vicious spiral of rising wages and rising prices. This is probably regarded as an improved standard of living by cranks, professional agitators, and mistaken reformers. economists call it Inflation.

The whole issue of a higher standard of living hinges on the inherent and intimate relationship which exists between wages and output. The two cannot be divorced without grave consequences to the economic stability of a country. A famous industrial leader recently summarized the problem when he said: "The policy of high wages and low output is a complete mirage, because it simply means higher prices. Likewise, the policy of low wages and high output is

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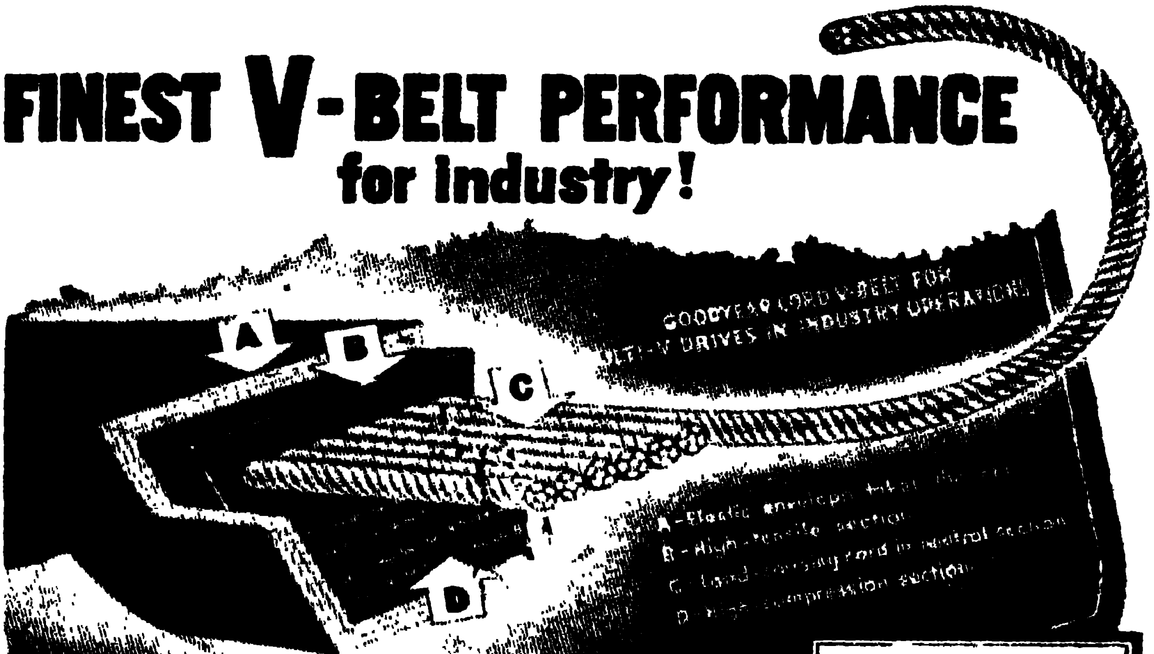
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CALCUTTA MADRAS DELHI BOMBAY LAHORE COLOMBO KARACHI NAGPUR LUCKNOW BANGALORE equally foolish, because insufficient purchasing power in the hands of the people does not permit all that is produced to be purchased. Low wages and low output is merely to turn the clock back and revert to the state of a backward country." The final answer, then, to the problem of a satisfactory standard of living would be—high wages AND high output.

Another serious obstacle to a higher standard of living is the wide-spread belief that the less a labourer does, the more employment there will be for others. Henry Ford answered this shallow but appealing doctrine nearly half a century ago; but the idea still persists since it is so very easy to "sell." It was a refreshing change, therefore, when Arthur Horner, a prominent labour leader in Wales, recently admitted in public the falsehood inherent in this creed which seeks to appease the bogey of unemployment by restricting output.

The recent war, extending over six long years, has devastated a large part of Europe and Asia. There is a tremendous amount of work to be done in making good this destruction. In other words, far from there being any likelihood of unemployment, one of the major problems facing business and industry today is the dearth of trained personnel.

Again, modern scientific advances are leading to the growth of new industries; and each industry, in its turn, gives birth to a host of subsidiary or supporting industries. All these facts mean *more* employment, not less.

In view of all these considerations, it would appear that the first essential in improving our standard of living is to educate the working classes in right thinking, especially in regard to the basic economics of industrial activity. They must be taught to appreciate that the cost of manufacturing a product or of providing a service is made up of three elements: first, the materials from which the article is produced; second, the labour and machines required to produce it; and third, the overhead expenses of the establishment. To increase these costs is to increase the cost of the commodity finally produced; which means a lowering of the purchasing value of money, and, consequently, a lower standard of living. Conversely, a high output at low cost means low-priced commodities and services, and, therefore, a higher standard of living.

The several steps involved in the issue have been briefly enumerated by Henry Ford: reduce costs through better methods, and pass on the benefits to the consumer. This will bring your commodity within reach of a wider market. A further reduction in prices will then be possible resulting in more business, more jobs, more profit, and more wages.

Production *must* increase; for we cannot, inspite of all our Utopian theories, enjoy more goods or services than we produce. Mere industrialization will not do: we must introduce the highest level of productive efficiency in our present and proposed industries. In brief, the higher standard of living to which our people aspire is dependent, first and last, upon a high output and at the minimum cost consistent with quality. There is no other way out.

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DEMOCRACY AND DISCIPLINE

AN English transport journal recently commented editorially on the decline of traffic discipline. Similar comments, editorial and otherwise, are given prominence in many magazines and newspapers today. *The Times of India* referred to this matter only a few weeks ago in its editorial columns: "It is probably no extravagance to say that any one who can drive a car unscathed over a long period in Bombay City can be confident of his ability to steer a motor vehicle through Bedlam." That is a description of conditions as they are. By way of remedy, *The Times of India* suggested: "Apart from planning for roads to cope with a greater flow of traffic and for adequately equipped and trained police patrols to compel observance of elementary traffic rules, a preliminary campaign to improve road manners would pay security dividends."

Now that motor vehicles, petrol, tyres, and other accessories are beginning to be available much more freely than during the period of war, there is certain to be an unprecedented increase in the amount of traffic which will flow through our streets. Side by side with this, there is an appreciable and distressing decline in road manners: "Driving standards have very definitely deteriorated; thoughtless people park their cars all over the place without considering the difficulties of through traffic; a great many cyclists completely ignore the regulations devised especially for their own safety." Accidents and death are the penalties we pay for these acts of irresponsibility. If any attempt is made to improve matters, the problem must be viewed in its proper perspective.

First of all, our roads must be made suitable for the traffic which they have (and will have in the near future) to cope with. While this aspect of the problem must be given careful consideration when new roads are being planned, existing roads could be vastly improved by "engineering revision."

The next step is to have a comprehensive code of traffic regulations. It will not do to design excellent roads if motorists and pedestrians are permitted to indulge in practices which are dangerous to themselves and to all other road users.

After our roads have been improved and traffic regulations have been formulated, the latter must be vigorously enforced. While most people will obey these regulations, there will always be a minority which will flout them either through carelessness or reckless defiance of authority; for it is a human weakness to confuse liberty with licence. In order to get every user of the road to observe these regulations which are meant for the greatest safety of the greatest number, severe penalties should be imposed on all transgressors. As the transport journal to which we have already referred recently said: "We all hate regulations but the highway is no fit place for the exercise of individual liberty........The blessings of freedom need not necessarily include the freedom to get run over."

A sure step to reduce street accidents would be the education of all road users in the proper use of the road. Every individual should be instructed in safe road practices. This education could begin with advantage with school-children who will be the citizens of tomorrow. These and adults must be educated to have regard for the rights and welfare of others. This type of discipline practised in all our acts, in all places and at all times, is the very foundation of true democracy.

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Charles W. Eliot,
(Late President of Harvard University.)

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a name that has been associated with the *triumphs of electricity during the past sixty years.*

THE PROBLEM OF ABSENTEEISM.

At its monthly meeting held recently, the Efficiency Club of India discussed the problem of absenteeism in business and industry. As this subject is most important in view of the industrial development of this country, a résumé of the discussion is given below, together with certain remedies which have proved very effective elsewhere.—ED.

A CAREFUL and extensive survey carried out by the Industrial Health Research Board in England goes to show that absenteeism is a widespread problem in most industries. The causes of absenteeism are many and deserve to be analysed carefully.

Working conditions, probably more than any other factor, are responsible for the magnitude of this problem. First of all, there is the question of hours of work. It is the experience of industrialists everywhere that if the hours of work exceed a certain limit, fatigue increases and production usually drops. It has been established that in the case of men, a 60-hour week can rarely be exceeded without a sharp increase in absenteeism. Indeed, even these hours usually prove to be too long. More important even than the length of the working day is the number of hours worked in the week. A weekly holiday, with or without pay, is found to be essential in most industries if regular attendance is to be secured.

Poor working conditions in the shape of inadequate ventilation, lighting, and cleanliness also react on the workers' health and efficiency and lead to absenteeism. Apart from the working conditions within the factory walls, general welfare amenities also play a vital part in securing regularity of attendance. These include medical treatment within the works, canteens, rest-rooms, and toilet facilities.

Wages must be considered next in relation to this problem. Curiously enough, workmen frequently try to *limit* their earnings. That, at any rate, is the experience gained during these war years. In England, for instance, there is very little that the workmen can purchase either in the shape of food or other consumer goods. The result of this shortage is that labourers are disinclined to raise their earnings much beyond their normal requirements. Workmen have also been known to slacken off in order to keep their incomes from being assessed at a higher rate of taxation.

Amongst young workers, boredom with work accounts for a considerable amount of absenteeism. Boredom usually makes the man feel tired which is a short step to feeling ill. This aspect of absenteeism could be dealt with in two ways: firstly, by altering the worker's attitude of mind; and, secondly, by altering his job or hours of work.

Apart from the factors mentioned above, there are others which also have a bearing on the problem of absenteeism. For instance, an employee suddenly falls ill; or his relative or friend falls ill, or something unavoidable happens which requires his presence at home or elsewhere. But absenteeism due to these causes is slight and frequently inevitable.

Avoidable absence from work, however, can be cured. But the cure depends very largely on the nature of the problem in each individual workshop or factory. Some of the elements concerned in the solution of this problem are given below.

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Every effort should be made to see that the right persons are engaged on the right jobs. It is a common experience that absenteeism is more frequent in the case of misfits than in the case of those who find pleasure in their jobs.

Unfortunately, a large number of jobs in modern industry are of a highly repetitive nature. To overcome the monotony of such jobs, efforts should be made to avoid long spells of such work without breaks. Background music, played during intervals, is frequently found to have effect in the case of monotonous occupations.

Since health and general fitness are mainly responsible for absence from work, a few hints on this subject would be useful.

First of all, the ordinary rules of health and hygiene should be adopted. Doctors must be provided to deal with employees who are frequently 'off-colour'.

If a canteen exists, every effort should be made to provide nourishing meals. This is a first class investment, since the health of workmen depends largely on their diet.

Special attention should be paid to night-shift workers, since they have a disadvantage over their colleagues who work day-shifts. Adequate precautions should be taken against accidents, since injuries sustained within the workshop account for a considerable number of man-days lost every year.

Working conditions can nearly always be improved. Constant care and attention should be given in order to maintain them at the highest possible standard.

Since these suggested remedies cover a wide field, it is in the interests of efficiency to co-ordinate them in a Welfare Supervisor whose whole-time task it should be to secure the best working conditions possible for the men employed in the organisation.

Incentives in the shape of bonuses for regular attendance have also been tried out with success in many organisations.

In conclusion, it is worth pointing out that absenteeism in this country is frequently due to the migratory character of the labour available. Another important cause of irregular attendance here is the lack of industrial consciousness as far as the working class is concerned. The remedy to the first problem is probably adequate housing and related incentives calculated to maintain stability of employment. The solution to the second problem depends upon educating the working class and inculcating in them a lively appreciation of their responsibilities. Workmen must be made to realise that the growth of an industrial India ultimately depends upon the quality and earnestness of the working force in the hundreds of thousands of organisations all over the country.

* * *

Write The Last Line Competition

The Editor has awarded a prize of Rs. 5/- for May, to Mrs. E. Abdernalden, P. O. Box 1125, Bombay, who submitted the following *missing* line

A charming homemaker named
  Lou.
Kept her home very tidy, it's
  true.
But her pride took a fall
On a rug in the hall
Which was not anchored and
  brand new.

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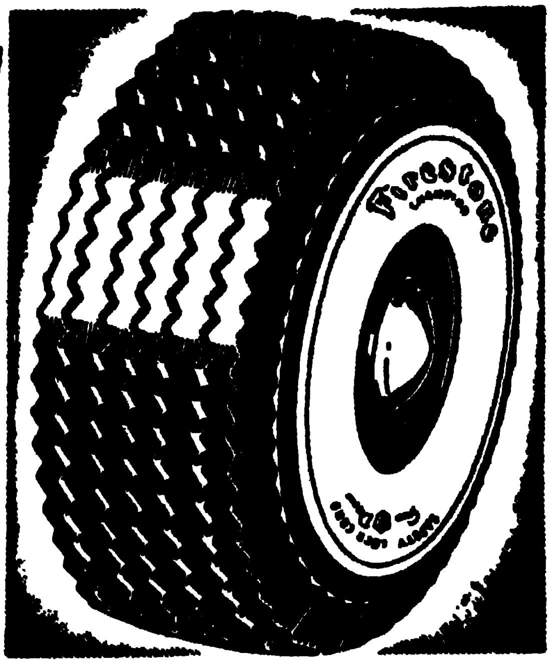

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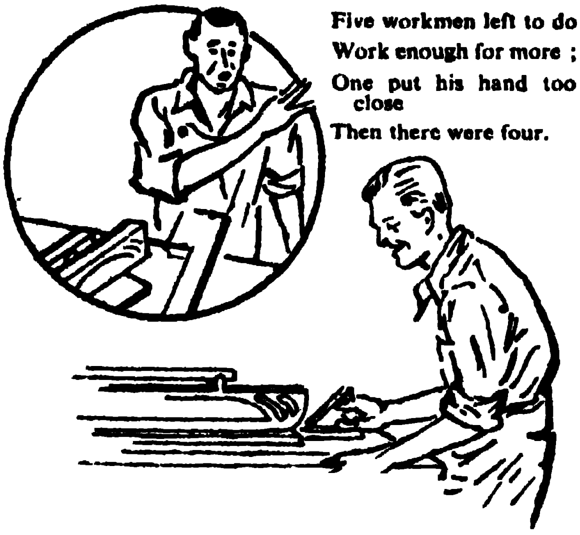
"AND THEN THERE WERE NONE"

Keep Guards in Place.

Always see that all protective guards are properly in place before starting the saw. Be sure guards function properly, are resting on the work and otherwise provide adequate protection. *Never* operate saw for ripping without guards in place. Do not remove guard while saw is running. If guards are damaged, or do not function properly, have them repaired before using the saw.

Six busy woodworkers
On the job arrive.
One didn't use the guard
Then there were five.



Five workmen left to do
Work enough for more ;
One put his hand too close
Then there were four.

Keep Hands Away From Saw.

Always use a push-stick when sawing short or narrow pieces of work. This prevents injury by keeping the hands away from the saw. *Never* feed short or narrow pieces of work to the saw without push-stick, as this practice is very likely to cause injury. To avoid being struck by a kick-back, do not stand directly in line with the saw.

Be Sure Work Is Free of Nails.

Always examine all work carefully to make sure it is free of nails and other metal parts before sawing. When the saw teeth strike a metal object, the saw is damaged and the operator is apt to be hurt. *Never* take for granted that a piece of work is free of metal parts. Also beware of loose knots, as they are likely to break out and strike the operator.

Four men now on the job
As busy as can be;
One didn't see a nail.
Then there were three.

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Three buddies still at work
When cleaning times come due.
One didn't stop the saw
Then there were two.

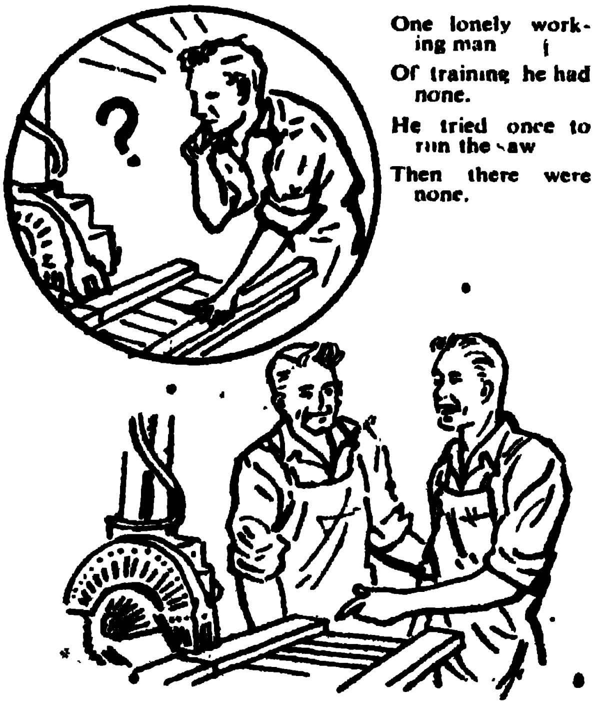
Stop Saw Before Adjusting or Cleaning.

Always stop saw before making any adjustments on it, or cleaning chips and short ends from saw table. Use a brush or stick when cleaning around the saw teeth. *Never* try to adjust saw or clean around it while it is in motion. Do not attempt to oil saw while it is in motion. Never use an air hose for cleaning.

Do Not Use Dull Saw.

Always keep circular saw sharp, set, free from cracks and properly balanced. See that teeth are properly jointed, so that saw will not be out of round. At first sign of dullness, binding, or pounding, remove the saw and have it reconditioned by an experienced man. *Never* try to work with a dull saw, nor one with the teeth improperly set. These will give the saw a tendency to bind in the work and cause damage to the equipment and injury to the operator.

Two are left: the work piles up
Not much time for fun;
Didn't know the saw was dull
Then there was one.



One lonely working man
Of training he had none.
He tried once to run the saw
Then there were none.

Only Trained Operators Should Use Saw.

Operate a circular saw only if you are properly trained and it is part of your job. Only experienced operators can do a good job safely. *Never* permit your untrained fellow employees to use circular saws, as they are very apt to get hurt. If necessary have a control switch that can be locked, so that only properly authorized employees can start saw.

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DISCOVERING EMPLOYEE ATTITUDES

WHEN industry was in its infancy, and the owner of a shop worked with a handful of apprentices, there were no "labour relations" to speak of. The owner, being in daily intimate contact with his workmen, knew exactly how they felt and thought. One of the essential characteristics of modern industry is vastness of organisation. In these circumstances, it is only natural that contact between the management and workmen should suffer; for, with the growth of organisation, the gap between employer and employee tends to widen. To bridge this gap is one of the major problems of modern management.

One device used to discover employee-attitudes is known as the "improvements interview." To carry out this interview, progressive organisations appoint a man whose task it is, either part-time or whole-time depending upon the size of the firm, to listen to the confessions and complaints of employees who have something or other to "get off their chests."

This confidential interview acts as a link between the Works and Management. The employee who comes forward, either with a complaint or suggestion, remains anonymous, of course, unless he expressly desires otherwise.

In order to make such an interview a success, it should be planned and conducted on sound lines. First of all, distrust must be overcome. It is the experience of most managements that employees refrain from coming forward with suggestions or complaints, sometimes through mental inertia, but mostly through timidity.

Before such inteviews are started, a circular should be issued to the staff explaining to them the point and purpose of the proposed procedure.

The rules to be framed for conducting these interviews will depend, of course, upon the needs of individual firms. Certain general principles, however, are suggested by way of guidance.

Firstly, interviews should be fixed by previous appointments. Secondly, the interview itself should meet the following conditions: there must be absolute privacy and quiet so that the employee can talk freely and without fear of being overheard; the interviewer must go out of his way to conduct the talk in the friendliest atmosphere possible; the employee should be put at ease and encouraged to talk with the utmost freedom, whether his grievances are real or imaginary; for, as far as the employee is concerned, an imaginary grievance is to him as "genuine" as a real one.

Th interviewer himself must speak as little as possible. A sympathetic nod, or a word of encouragement or sympathy will suffice.

While not more than one employee should be interviewed at a time, this rule should be relaxed in case two or more employees desire to be heard at the same time.

The *matter* as well as the *manner* of the worker's talk should be carefully noted. The promise of anonymity should be observed to the last letter. When the substance of the interview is passed on to management for action, it should not be possible even to make inferences as to the source of the complaint or grievance. The interviewer should take notes openly, but *after* giving the assurance that they will be kept under lock and key.

(Continued on page 272.)

PAYS DIVIDENDS

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PROPERTY PROTECTION

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Safety Instructions for the Man on the Job

WOOL FINISHING

Wet Finishing

1. Never attempt to feed washers or fulling mills by hand. Always use a stick.
2. Be careful never to spill soap on the floor. Wipe up immediately any that may be spilled.
3. Use mild soap for washing up ; soft mill soap may harm your skin.
4. Wear splash-proof goggles, rubber gloves and apron when working with acids or other chemicals.
5. Never open extractor cover guard until basket has stopped.
6. Make certain your feet are clear from cloth before starting filling mills.

Dry Finishing

1. Keep shear guards in place at all times.
2. Shut down shear before testing for proper setting of machine heads ; use paper sheet.
3. Avoid injury ; push trucks, do not pull them.

WOOL CARDING

1. Never attempt to remove waste from cylinders, workers, strippers, gears or pulleys while cards are in motion.
2. Follow the instructions of the overseer or second hand on wiping down cards.
3. Never attempt to clean out under running cards.
4. Report defective guards immediately.
5. Be sure to wipe up oil spots promptly.
6. Wear clothes that fit, with no loose ends to catch in machines.
7. Stop card before putting on belts.
8. Make sure all hand cards and tools are off machine and in rack before starting up.

WOOL SPINNING

1. Never climb in back of mule carriage unless belt is thrown off.
2. Be sure all bobbins are picked up after each doff.
3. Pick up bobbins only when mule has gone into forward motion.
4. Report defective guards immediately.
5. Avoid sudden changes of direction when operating mules. Walk carefully to prevent slips or falls.
6. Stop carriage before end of outward run.
7. Keep excess oil wiped up or use oil absorbent material.
8. Always approach steps on frames squarely. Avoid stepping up on steps diagonally.
9. Women should wear safety caps.

WOOL PICKING

1. Report defective guards immediately.
2. Always hang pitchforks where they cannot be covered by stock.
3. Do not attempt to remove lap on rag picker feed rolls while machine is running.
4. Hang "danger" sign, shut off power and be sure machine has stopped before lifting or opening cylinder, feed roll, cleanout covers, or stock blower pipe doors at delivery end.
5. Take care not to spill wool oil. Promptly clean up spilled oil.
6. Be sure you know where the fire extinguishing equipment is located and how to use it.

DYE HOUSE

(Cotton, Woollen and Rayon Mills)

1. Wear splash-proof goggles or face shield, rubber gloves, apron and boots when handling acids and caustics.
2. Wear a respirator, goggles and rubber gloves, when handling dyestuffs and powdered chemicals.
3. Remove nails from wooden barrels when opening them ; keep covers on barrels.
4. Keep chemical solutions off the floor as much as possible.
5. Change clothing and wash thoroughly after working with acids, caustics and dyestuffs.
6. If chemicals get in your eyes or on your skin, flush with water and get first aid immediately.
7. Walk and lift carefully on wet floor.
8. Keep aisles clear of trucks and stock.
9. Shut off steam and motor when taking sample from dye kettles.

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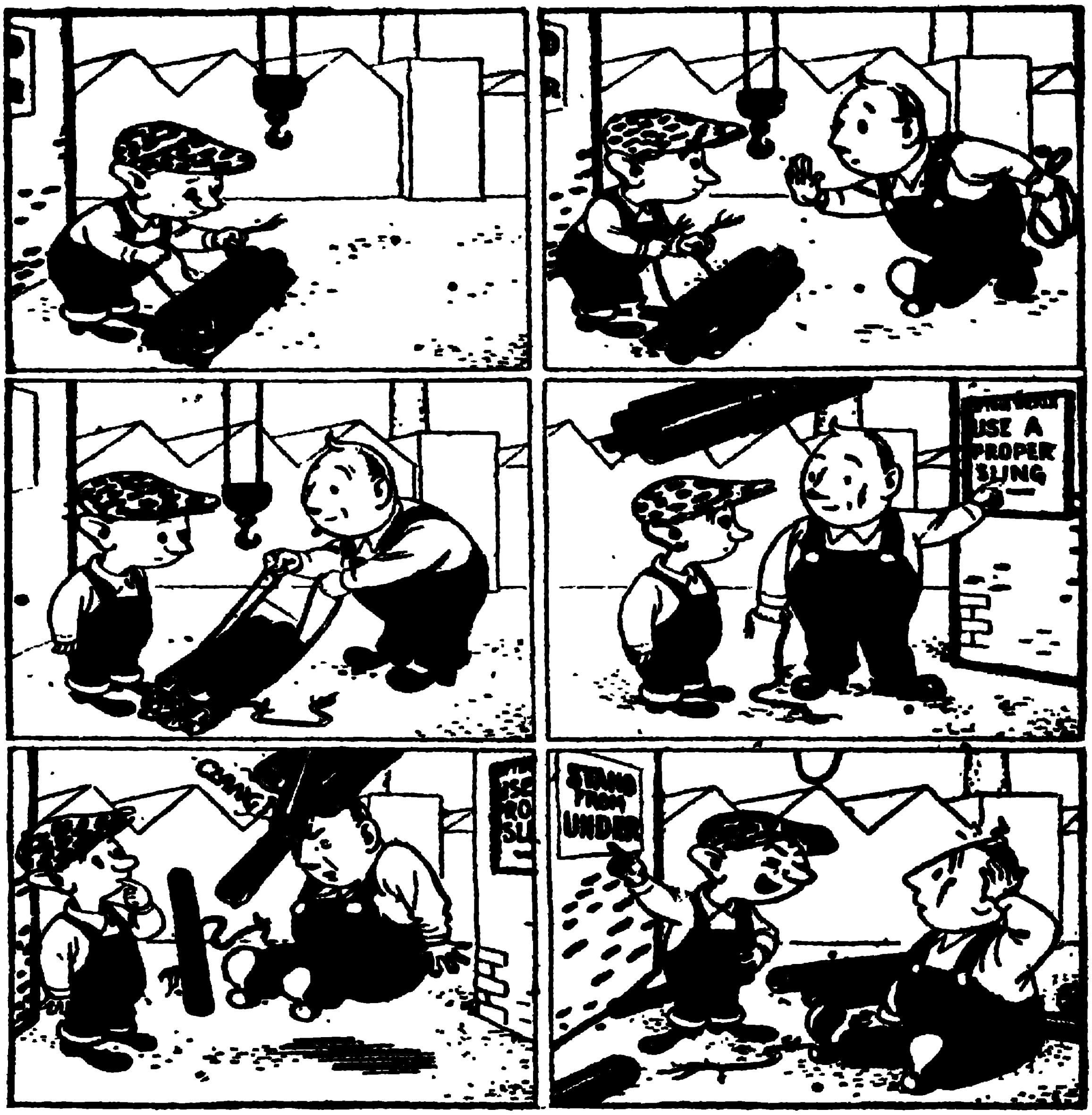

The triplets were fine hefty chaps,
Named Dick and Bill and Francis ;
But Fate gave all three nasty raps
Because they took such chances.

Dick used a worn-out sling, and Bill
A chain that was not tested.
Both loads crashed down to maim and kill
And both strong men were bested.

While Francis, quite a careful man,
Made just one tragic blunder :
When loading up a railway van
He didn't ' Stand from under.'

Their stories show, as well as any
That just one chance is one too many.

Courtesy—*R.S.P.A.*

Building a Watershed

Preliminaries are complete and surveys are now being made for the construction of the eight dams and a barrage across the Damodar River. Indicating a capital expenditure of fifty-five crores of rupees, the Damodar Project would be "an example in the multi-purpose development of a watershed for India."* Steel will be used for this gigantic project.

DAMODAR VALLEY PROJECT

7,60,000 ACRES OF IRRIGATION

A series of reservoirs providing flood control, supply of water for irrigation and a system of hydro-electric and thermal power stations inter-connected by transmission lines—these are the main features of the multi-purpose project planned for Bengal and Bihar.

This map indicates the main areas which will be affected by the Scheme. The shaded portions show the present flood-threatened while point to three possible barrage locations on

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IMPORTANCE OF PROTECTIVE FOODS IN THE DIET

A recent Broadcast talk by Dr. Mitra, M.B.E., from the All-India Radio.

The Protective Foods: The expression " Protective Foods " was first used by a famous American Scientist about 20 years ago, and applied only to green and leafy vegetables and milk. Milk and green vegetables were found to be rich in calcium and vitamin A and were thus supposed to protect the consumers against loss of health caused by ill-balanced diets.

Gradually, meat, fish and eggs were included in the category of protective foods, as these animal foods supplied the body building material, technically known as proteins, in a readily assimilable form. Later on, it was suggested that pulse grains may be added to the list, as these grains were found to be fairly rich in some of the minerals and vitamins. The League of Nations have enumerated milk, meat including poultry, fish, eggs, cheese, green and leafy vegetables, unsplit pulse grains, potatoes, fruits and Cod-liver Oil as items of protective foods.

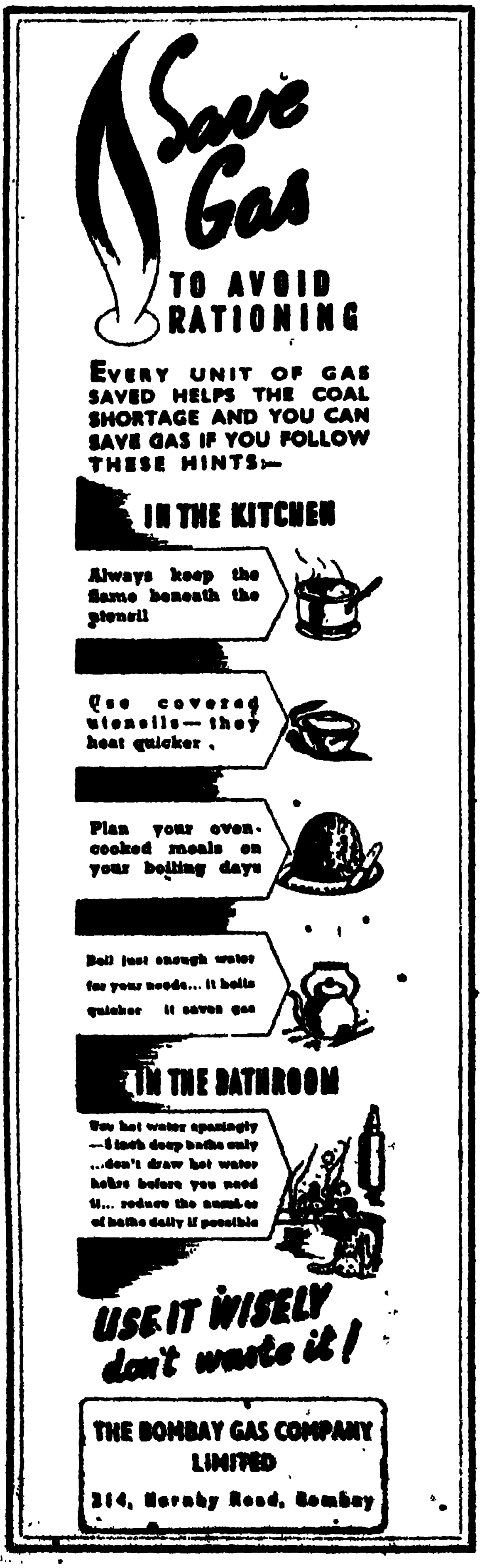
Energy Foods and Protective Foods: Lately there has been a tendency to classify all foods into two main groups the first being energy foods, and the second protective foods. The energy foods in the diet comprise mainly, of cereals —such as rice, wheat, maize and millets; sweetening substances—such as honey, sugar and gur; and fatty substances—such as ghee and cooking oils. All of these food supply heat and energy to the body and are used as fuel by the human machine. Lack of energy foods in the diet or in other words, insufficient supply of fuel in the human machine, leads to " undernutrition " as opposed to " Malnutrition," which is caused by defects in the quality of the diet. It must, however, be understood, that in the present-day language the term ' malnutrition ' is being loosely used and often implies ' under-nutrition ' also.

Uses of Protective Foods: ' How are protective foods utilized in the body" ! I shall try to answer this question by comparing the human body with a machine. In a machine constant attention, proper maintenance and timely repair or replacement of worn-out parts, not only tends to raise the quality of work but the life of the machine is prolonged. In a similar way protective foods supply the much-needed proteins, minerals and vitamins which not only ensure proper growth, repair and maintenance of the bodily frame made of bone, muscle, blood, nerve, etc., but also help the working of the essential organs like heart, lungs, brain and bowels at a very high level of efficiency. Inclusion of protective foods in adequate amounts in the diet enables a child to grow into a vigorous adult and as an adult preserve the characteristics of youth for the longest time possible. In short, protective foods supply us with the necessary material to live in a state of physical and intellectual efficiency culminating in the fullest enjoyment of a long life with an alert mind, bodily vigour and buoyant health.

Good Health and Longer Life: Insufficient supply of protective foods in the diet may not cause definite ailments but the consumers of such badly balanced diets just manage to exist on the borderland of health. Such persons may not be actually ill but never enjoy the advantage of first-class physique and stamina. Numerous feeding experiments have conclusively proved that if protective foods are included in generous amounts in the diet the consumers become less prone to diseases or other bodily infirmities. Countries with *per capita* consumption of protective foods on a high level report lowered disease incidence, fewer infant deaths and reduced general mortality rate; also the people therein enjoy a longer span of life.

Ignorance of Healthy Food Habits: 'In India *per capita* consumption of protective foods is very small. One could argue that protective foods are costly and that our country does not produce enough of them. But records of dietary surveys show clearly enough that there are other equally powerful reasons which militate against inclusion of protective foods, in adequate amounts in the daily diet. *One of them is the ignorance of healthy food habits.* Otherwise, why is not the food eaten by upper middle class and rich families duly balanced? It has often been noticed during family enquiries that a rise in income has not always been followed by a proportionate increase in the consumption of milk, flesh foods or vegetables, on the other hand more of fats and oils have been consumed.* The *chapathi* has been replaced by *puri* fried in *ghee,* rice by *pulao* and extra cooking fat has been used in the preparation of pulse gruel and vegetable curry.

Role of Protective Foods: There is another distressing feature which is generally overlooked. Perpetual shortage of energy foods in the diet makes the individual feel



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Use covered utensils—they heat quicker.

Plan your oven-cooked meals on your boiling days

Boil just enough water for your needs... it boils quicker it saves gas

IN THE BATHROOM

Use hot water sparingly—5 inch deep baths only ...don't draw hot water baths before you need it... reduce the number of baths daily if possible

USE IT WISELY don't waste it!

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hungry at various hours without giving the usual sense of satisfaction after meals. This sense of satisfaction may usually be taken as a reliable guide as far as the individual requirement of energy food is concerned. Consequently, a person who is suffering from the effects of insufficient energy foods in his diet is often alive to the fact and tries to eat more food if he can afford it. Only when semi-starvation has continued long enough does the body adapt itself to a lessened need for food and then only healthy appetite disappears. On the other hand, *lack or shortage of protective foods does not create any appreciable pangs of hunger but may cause early fatigue, lassitude, mental inertia, lessened capacity for work, and other symptoms of a similar nature* which can neither be easily perceived nor ascribed to the real cause *e.g.* shortage of protective food in the diet. Moreover such conditions may result from factors other than defective diets and thus the cause of the trouble may escape detection by physicians during casual examinations.

Importance of such Foods: To sum up, our food is classified broadly under two main groups namely energy foods and protective foods which are, milk, meat, fish, eggs, cheese, green and leafy vegetables *whole grain of pulses*, potatoes, fruits and fish—or shark-liver oil. In devising balanced diets for persons of different age, sex, occupational or social groups, the dietitian has to suggest the various items of protective foods in quantities needed to ensure healthful living and then provide for energy requirements with cereals, sugar and fats or oils.—" *Nutrition* " *Bulletin, Dept. of Food, Govt. of India.*

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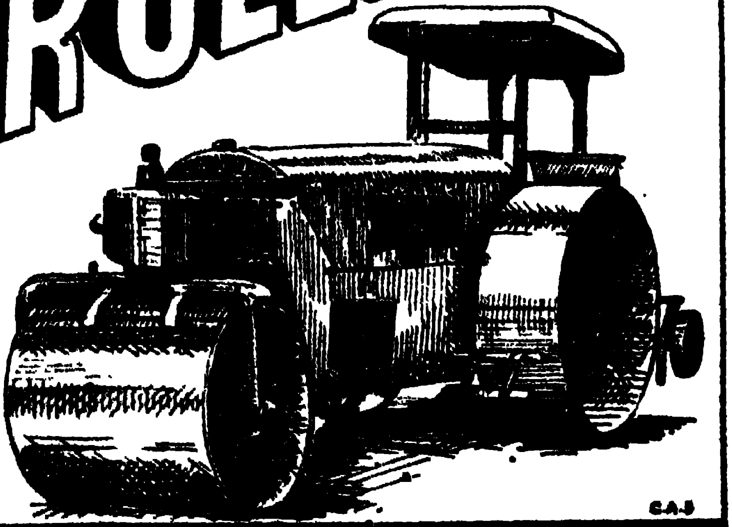

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WRITE THE LAST LINE AND WIN Rs. 5/-!

Said a housewife, "I'm dying to go
Some place where my new hat will show."
But her fashion parade
Has now been delayed

Any subscriber to *Efficiency News* can enter. All you have to do is to supply the missing last line that rhymes with "go" and "show" and deals with safety. A book prize to the value of Rs. 5 will be awarded to the best entry. The decision of the Editor will be final. Entries, cut from the magazine with the missing line filled in, should reach the Editor, *Efficiency News*, Electric House, Fort, Bombay, not later than 20th August 1946. Maybe the list of hazards below will help you.

Careless smoking
Grease or liquids on floor
Poorly lighted stairways
Faulty electrical connections
Matches within children's reach
Reaching over stove burners
Throwing water on burning grease
Pot handles turned outward on stove
Dry cleaning with flammable cleaners
Touching electric switches with wet hands or while standing in bathtub
Porch steps or railings in poor repair

The above hazard hints may give you an idea for your last line—also for your family's safety!

Let your plans for post-war reconstruction include

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Don't bereave your family WANTONLY!

DEATH LURKS NEAR OPEN DOORWAYS

DURING THE YEAR ENDED JUNE 1946, 28 PERSONS LOST THEIR LIVES AND 72 WERE SERIOUSLY INJURED AS A RESULT OF STANDING NEAR OPEN DOORWAYS AND RIDING ON FOOTBOARDS OF RUNNING TRAINS.

Life is precious

DON'T TAKE RISKS!

GIP

WHAT IS EFFICIENCY?

["In a recent editorial the "Financial Times" comprehensively dealt with the much-used term "Efficiency" as applied to British industry. As the conditions set out apply equally to industries in this country, it gives us pleasure to reproduce this article by special permission. ED.]

NOTHING can escape criticism in these times. In the last few years, we have heard a great deal about the alleged inefficiency of British industry. Some of it has been suspect as political propaganda directed against private enterprise. But, even in business circles, a deep impression has been made by reports showing that output per man hour in various industries is lower in this country than in the United States. The concept of Production per Man Hour (P.M.H.) has been accepted as the true criterion of industrial efficiency, and our task has been defined as the discovery of the best and speediest means of raising it. And now, in the first issue of the revived Manchester School, Professor John Jewkes comes forward, and insists that P.M.H. itself is suspect and, in fact, is anything but a decisive test of efficiency.

The trouble with the concept, he maintains, is that it is not sufficiently comprehensive. For example, a high output per man can be obtained in the production of pig-iron by having a few enormous plants. But the fewer the plants, the greater the distance the coal and iron has to be carried. So a very high production per man in iron and steel may be evidence of bad location or waste in transport services. On a broader canvas, Professor Jewkes suggests that American supremacy in manufacturing industry (which comprises only one-fifth of the total economy) may well be obtained only at the cost of relative inefficiency in the remaining four fifths. In other words, American industry may be obtaining its high output per head only by using a relatively large quantity of non-manufacturing services per unit of output.

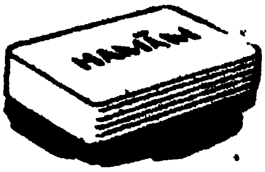
Cost and Price: Similarly, it may be suggested, a crude figure of P.M.H. for any individual industry leaves out of account the efficiency of the labour embodied in making its capital equipment. It would, the author points out, be quite feasible to produce a spinning mill in which scarcely any direct labour was needed at all. The P.M.H. of the very few workers remaining would be enormously high, but the cost of the yarn would be equally great because of the cost of the capital equipment. So we are brought back to the simplest and, indeed, the only criterion of efficiency—namely, cost and price. And these, Professor Jewkes maintains, are carefully avoided by most of the critics of the British industrial system.

The reply that can be made to this is that, as interest rates are almost as low in Britain as in America, it would pay us to extend our capital equipment to the American level. When we had done that, our total costs, on the present exchange rates and wage levels, would be very much lower than America's. This argument looks extremely strong. And so it would be if our present interest rates represented the true price of capital in a free market. Alas, they

Winnowing

The major occupation of India is agriculture and at harvest time whilst wandering through fields, one often sees the familiar sight of winnowing. It is a regular feature of peasant life in which the whole family including the women join in and help.

Then as one wanders on through the village streets, one will see that the shops with their wares of daily necessities for the villagers will also stock Hamam Soap.



HAMĀM

India's Favourite soap

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do not, as anyone who reads the account of the first day's discussions of the Investment Bill in Standing Committee this week will realise. In this country, market rates of interest are kept low by skilful manipulation of the market by the authorities. The real cost of capital is very much higher.

Platt and Reid Reports: The counter-argument, however, goes deeper than that. Even if true rates of interest were equally low here as in America, British labour would still be relatively cheaper than in the United States. So the combination of labour and capital resources that would pay us best would still involve a less extensive use of capital than in America.

On these lines, Lancashire, for the first time, has a come-back to the Platt Report as a condemnation of her efficiency. The mission, it is pointed out, was concerned with the maximum economy of labour in the middle of a war. It was not concerned with the competitive position of the industry on a cost basis in peace time. Was not Lancashire able, under peace conditions, to export substantial quantities of textiles to the United States itself over a tariff barrier ?

Similarly, the Reid Report refused to commit itself on a figure for the cost of reconstructing the coal industry. So long as it fails to do that, it is contended, the report fails to provide the irrefutable case for reconstruction which it is popularly supposed to embody. Professor Jewkes suggests that a new investment of £150 millions in the coal industry, which certainly seems large in comparison with present equipment of only £200 millions, " might be risky unless some preparatory examination were made of the savings in cost which would accrue." Admittedly, while the best units may be sound and cheap producers by every fair test, there is relative inefficiency in the tail of the industry. But this, says the author, may not be due to any shortcomings on the part of the managers of the industry. It may be the result of the propping up of inefficient units by State action through compulsory price-fixing schemes.

That, in brief, is the substance of the attack on P.M.H. as a sole and ultimate criterion. Does the whole case for the alleged inefficiency of British industry need to be reopened ? If so, the defendant might urge that the only conclusive evidence against him would be cost comparisons which showed higher *prices* of production for Britain than for the United States in all industries—especially in our traditional export industries. And here there is very little data—and some of it, for example, the relative prices of Lease-Lend goods, points in fact the other way. A serious investigation into relative prices ought to be made as quickly as possible.

Approaching Customers

Try a different greeting to each customer.

If a customer makes straight for you it means she has something to ~~say—treat~~ her pleasantly, and let her say it.

If she looks a bit lost offer to show her something or to help her.

If she examines the stock try to slip into conversation with a remark about the goods.

If she is ' just looking round ' leave her alone, but be ready to catch her eye when she needs you.

Bothering people is one blunder, neglecting them is another. Just try to help.

ADVENTURES OF SAMMY HARE

**" Before you cross the road, look out
" To see no traffic is about."
But Sammy paid no heed to Jill,
And very nearly had a spill.**

(*To be continued.*)

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THE UNITY OF NATURE

EFFORTS to develop natural resources have been made since the beginning of time. Yet the development of the Tennessee Valley Authority in America is regarded the world over as one of the greatest achievements of this century. Why is this?

Until the appointment of the T. V. A., efforts to develop natural resources were severely limited in scope. A river (for example) was controlled either for power *or* navigation *or* irrigation *or* flood control. The unity of nature was thus sacrificed to achieve a single purpose.

For the first time in the history of regional development, the T. V. A. "set out to command nature not by defying her, as in the wasteful past, but by understanding and acting upon her first law—the oneness of men and natural resources, the unity that binds together land, streams, forests, minerals, farming, industry, mankind." The Tennessee Valley region was "envisioned in its entirety," and the resources of the region were developed "in that unity with which nature herself regards her resources.... What God had made one, man was to develop as one."

It is beyond doubt that unified development is far *cheaper* than the development of resources separately. By combining several functions together—such as power production, navigation, and flood control—common costs are shared; and the development of each function accelerates the development of every other function.

Apart from being unsound economically, the development of resources *separately* can (and often does) destroy an entire region. A typical example of this wastefulness is given by David E. Lilienthal in his *Democracy on the March.* Copper ore was discovered in Ducktown in the mountains of eastern Tennessee; mining began; a smeltery was built. To provide fuel for the smelters' roasting ovens, forests were cut to a distance of 7 miles. The sulphur fumes from the stacks destroyed the thin cover that remained on the soil. Soon, the soil became poison to life. The land, shorn of its coverage, was torn mercilessly by the rains; and silt, swept from unprotected slopes, filled the streams and destroyed fish life. The water was robbed of its value for men, for animals, and for industry. In developing one resource, copper, all the other resources of the region were destroyed.

India with her great rivers and extensive watersheds stands to derive much profit from the T. V. A. experiment. Floods and famines are always with us; but efforts to check these recurring disasters are costly and hardly as successful as they could be if entire natural regions—the watersheds of our rivers—were developed with full regard for *all* their assets.

But to reap the fullest benefits of regional development, ~~planners~~ should remember that "goodwill is not enough, nor speeches, nor noble intentions. There will be those in abundance. There are principles and policies to develop and observe . . . The unity of nature's resources must not be disregarded, or the purpose for which such developments are undertaken will be betrayed as it has been betrayed before: by the way the job is done."

"Education for Dustmen"

Tom Warren, President of Rotary International, spoke to the Rotary Club of Chicago on "Education for Dustmen." "Education is not synonymous with schools and colleges. Education means ability to *think*, to reason and acquire wisdom . . . common understanding, common tradition and common ideals . . . not merely instruction. The influence of education should be to enhance the nobler arts of life. The essence of it, in his opinion, is the process of the "play of personality upon personality." The most important of life's education is found in the home—the play of a fine mother's personality upon a child begins in the home. Rotary must take its place besides other organizations such as the churches and the scouts to educate for the promotion of a more just and understanding world."

"We need men with broad classical minds . . . not the men who merely know the answers. We need men who *think*, men who judge and men who are just and wise!"

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If you have not already got someone to meet you on arrival write to the Y.M.C.A., 347 Madison Avenue, New York, or the Committee on Friendly Relations among Foreign Students (same address), or the Travellers' Aid Society, New York. They will be pleased to meet you if you write to them in good time. Then there is the Government of India's Educational Representative in the U.S.A. who is attached to the Office of India's Agent General in Washington, and his address is, 2107 Massachusetts Avenue, N. W., Washington, D.C. He will be able to advise you and help you if you

DISCOVERING EMPLOYEE ATTITUDES

(*Continued from page 255*)

It is best to start these interviews with a very limited programme dealing preferably with the higher-paid employees at the beginning. As the interviewer gains experience, and as the programme begins to justify itself it should be carefully extended to cover a wider field of employees.

The notes taken down by the interviewer may be summarized either along departmental lines or under main headings. Most important of all, the suggestions and complaints received by the interviewer should be promptly and effectively dealt with either one way or the other. If this is not done, distrust between employees and management is certain to become more acute.

The advantages of conducting such interviews are obvious. In discussing this vital tool of management, one well-known executive writes: "The actual suggestions are only a part of the information gained. From the intimate discussions between interviewer and interviewee on all aspects of the company's activities, impressions are obtained of many attitudes and problems, of the presence or absence of co-operation, of the quality of supervision, of the loyalty and the discontent. Hopes and fears are disclosed and the whole of that complex network of human effort, ambition, fulfilment, frustration, and disappointment that makes up every firm is disclosed as by no other method."

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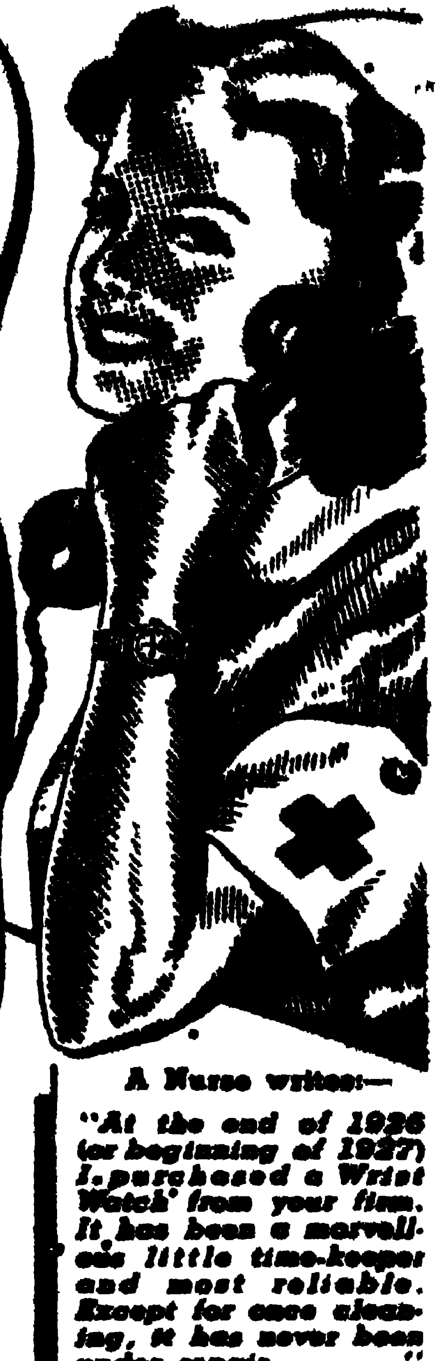

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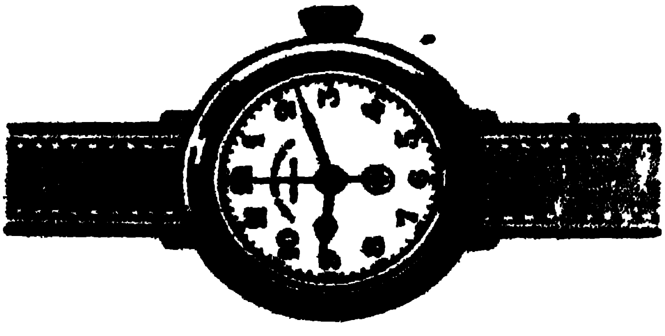

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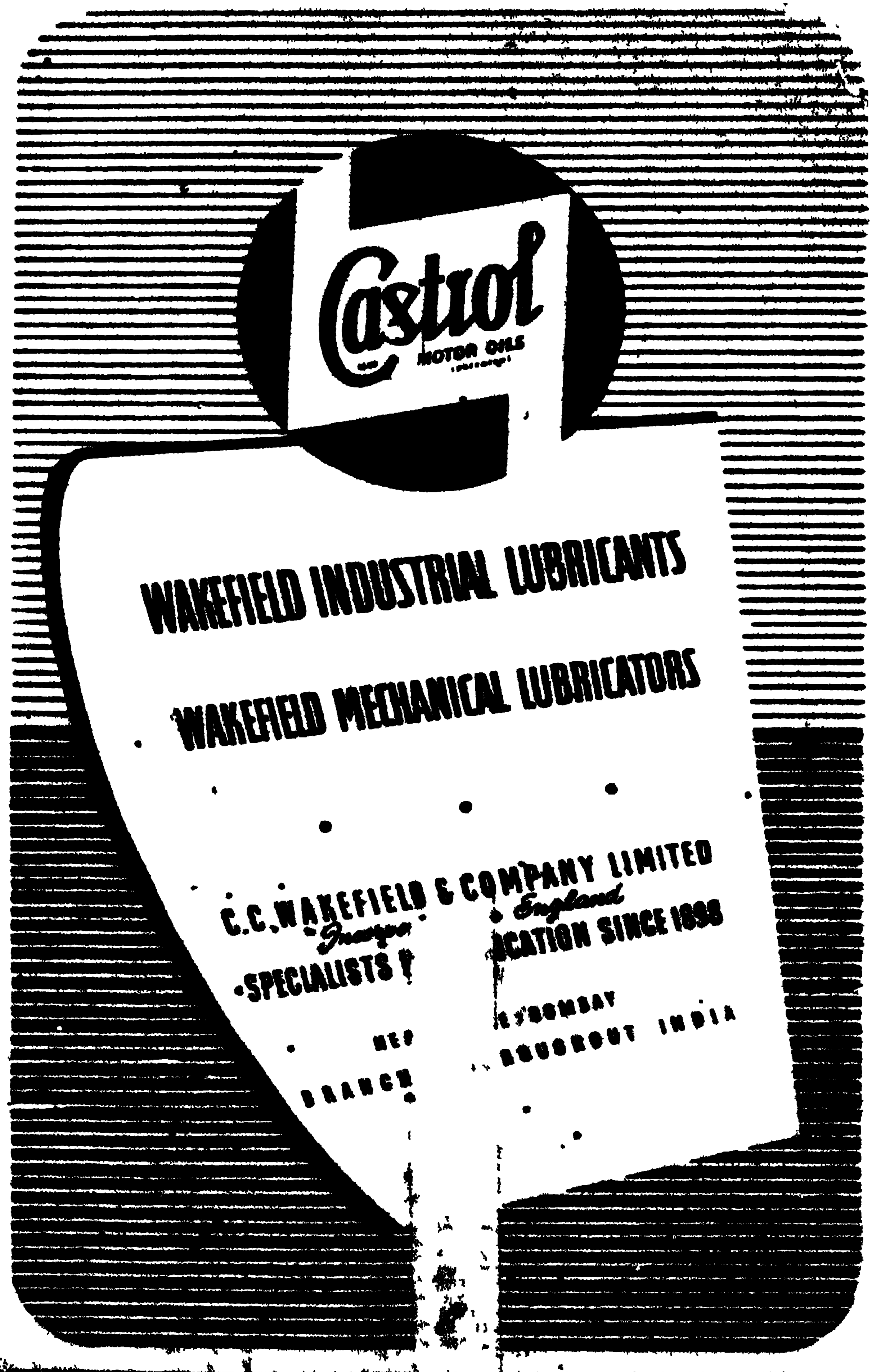

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Vol. XIII. No. 9 SEPTEMBER 1946 Price As. 8

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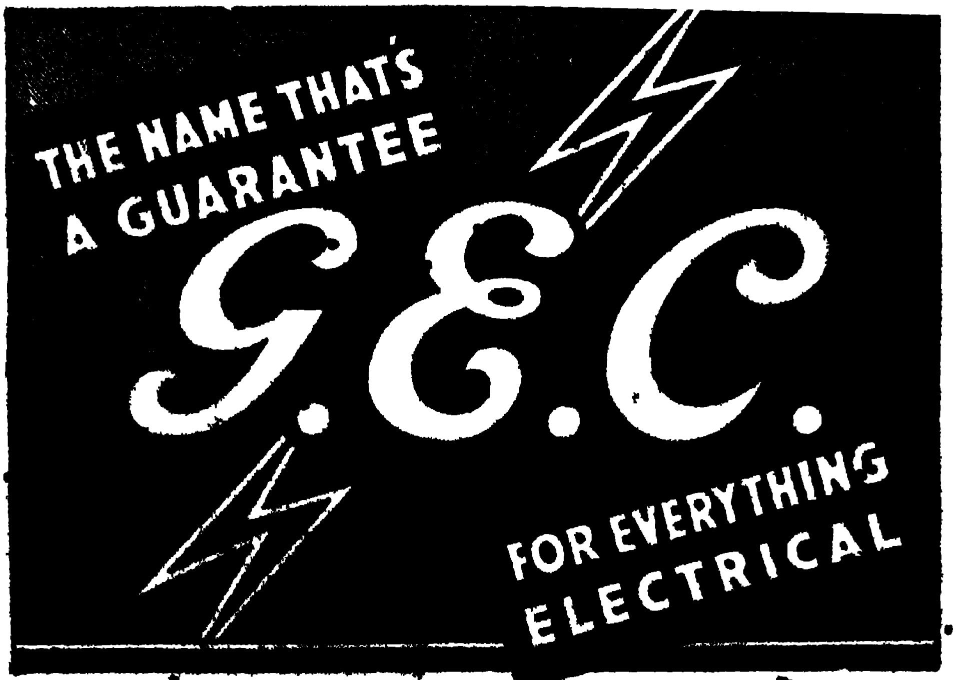

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EFFICIENCY NEWS

Vol. XIII. No. 9 **SEPTEMBER 1946**

CAN WE AFFORD SHORTER WORKING HOURS?

THE amended Factories Act has reduced the weekly hours of work to 48, and limited overtime to two hours. Can we afford this reduction in working hours? And how will this reduction react on our workers and industry?

Post-war shortages all over the world call for maximum production, not only to satisfy the internal demand for consumer goods, but also to conserve the export trade. As a writer in a London contemporary put it recently: "We must work as hard as possible to produce as much as possible; we must satisfy not only the essential demands of the home market, but we must keep prices down so that we can compete." How could these requirements be met in the face of the new 48-hour week? The answer appears to be: "By modernising our machinery, methods, and management."

The working class stands to benefit substantially from the reduction in the weekly hours of work. Nor is it inevitable that production must decline as a result of this measure. Is it a fact, for instance, that longer hours mean greater output? Careful research provides a negative answer. Excessive hours produce undue fatigue, with the result that production goes down, while absenteeism and sickness go up. This is especially true in the case of either unusually heavy or unusually monotonous work; for fatigue and boredom are the primary enemies of productive efficiency.

An experiment recently carried out in England to determine the effects of reduction in the weekly hours of work proved that costs were not enhanced; production stepped up; absenteeism dropped; and the health and contentment of the employees improved. Similar experiments elsewhere indicate that, in the case of heavy work, for every 2 hours work above 48, only one hour's output is added.

But even if the individual output per man-hour is maintained, what would be the effect of shorter working hours on our total output and costs? Obviously, total output would be seriously reduced. At the same time, employers would have to pay more people to produce the same amount of goods as they did prior to the introduction of the shorter working week. This would add to production costs; prices would rise in consequence; and wages would soon be in pursuit of rising prices. In short, we would soon find ourselves in the grips of a hopeless inflation.

In order to enjoy the benefits of a 48-hour working week without upsetting the country's economy, we must start by securing a complete re-organisation of our industry through improved managerial technique, technical advances in relation to both machines and methods of production, and a more realistic co-operation between the employer and the employed. These improvements would go a long way to increase the individual's output. Total output reduced as a result of the shorter working hours, could be offset by keeping machines working continuously, while the workers at the machines would enjoy shorter hours on a shift system.

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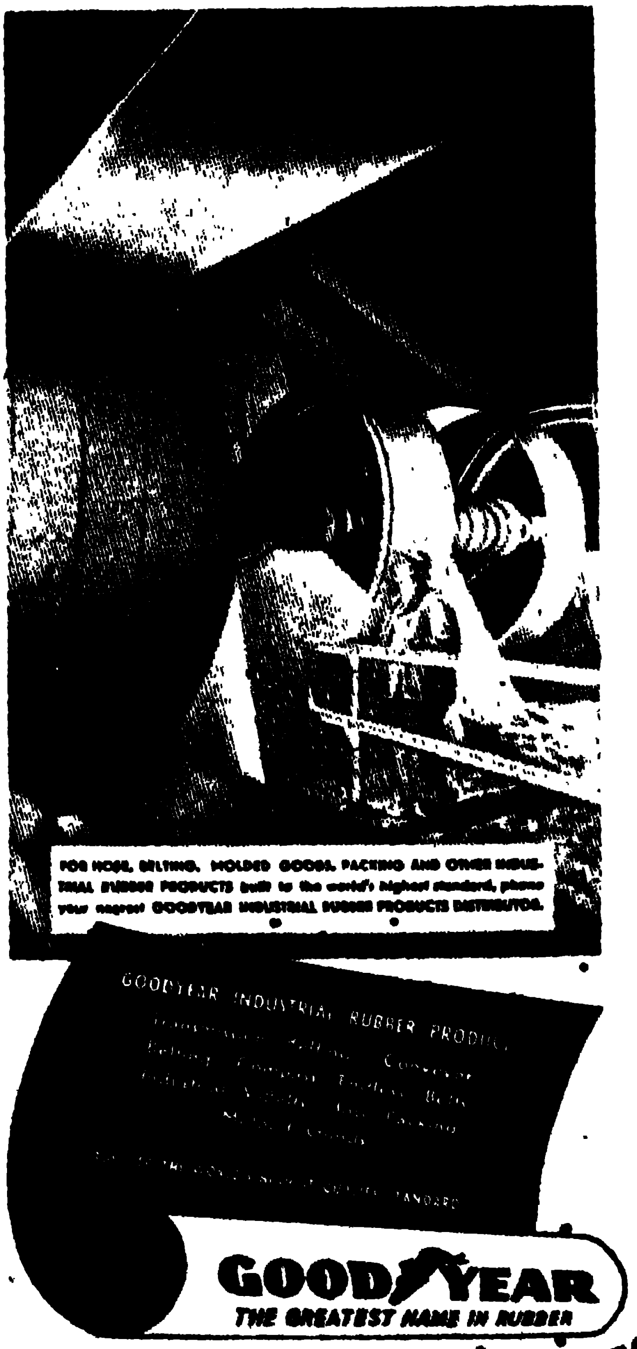

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"NO POLITICS IS GOOD POLITICS"— IN EMPLOYMENT PRACTICE

ONE of the more vital lessons contained in David E. Lilienthal's *Democracy on the March* is the importance of establishing sound employment practices. The momentous job undertaken by the Tennessee Valley Authority could never have been achieved with an inefficient working force. The employment policies of the T.V.A. therefore merit close study on the part of all businessmen and industrialists.

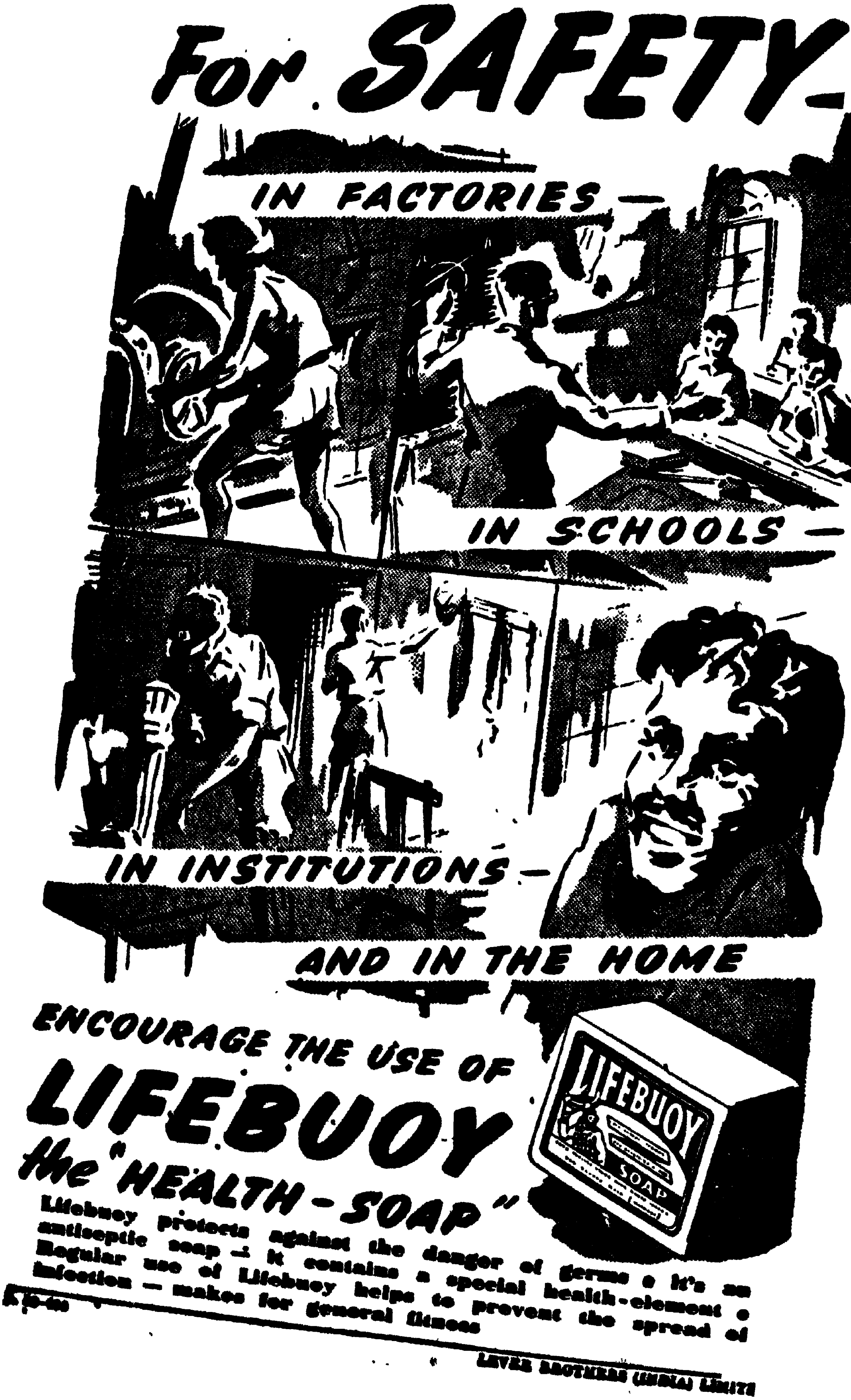
To begin with, T.V.A.'s personnel was selected, in accordance with a deliberate policy, from every part of the United States. The evils and drawbacks of selfish sectionalism were thus avoided at the outset. Since no narrow regional limits were placed on the sources of labour supply, men had the satisfaction of getting on the T.V.A. payroll strictly according to their worth. The T.V.A. at the same time, having a field of choice as wide as the U.S.A., could secure the best available talent for their job.

In the work of actual selection, the first step was to outlaw nepotism. "A recommendation by a Member of the Senate or the House was a disadvantage rather than an advantage to those who sought employment. The Tennessee Valley Authority did not want the people to get the idea that anybody could come there and obtain a job because he had a letter from a Senator or Representative."

Still more important, politics were to be kept out of employment policies. The charter formulated by Congress did not lay down these policies, but it was clearly stipulated that employment must be solely upon merit and without political considerations: "No political test or qualification shall be permitted or given consideration, but all such appointments and promotions shall be given and made on the basis of merit and efficiency."

Lilienthal explains at length the reasons behind these policies. To retain technicians and managers of high calibre would have been impossible if selection were influenced by political considerations. A person selected for his political views would be doubtful in his allegiance to the undertaking. "The whole enterprise would be infected by half-technical, half-political judgments. There would be no foundation upon which T.V.A. could stand." Transmission lines and dams would be located, not in accordance with economic and engineering facts and findings, but on the basis of political prejudice and predilections. It is worth noting in conclusion that all recruitment was made with the use of tests for gauging the general intelligence and mechanical aptitude of applicants. The use of these tests was justified and their reliability confirmed, by carefully kept figures of statistical correlation between the examination results and subsequent job performances.

We strongly commend these recruitment policies and urge their adoption by all those who are engaged in the selection of personnel. The first step towards this goal would be to embody the principles outlined above in the recruitment procedures of all business and industrial organisations.



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THE TECHNIQUE OF THE DISCUSSION GROUP

THE problems which supervisors have to face are fundamentally the same, irrespective of the departments or offices in which they happen to serve. The experience gained by each supervisor in handling these problems, however, is limited in scope since it relates to the problems arising within the narrow orbit of his own department. In order to profit by the experience of others, supervisors should discuss their problems with opposite numbers in other organisations. This will give them a sounder grasp of the technique of supervision. Apart from discussing with opposite numbers in other firms, most supervisors would add substantially to their own limited stock of experience by organizing Discussion Groups within the organisations in which they serve.

It is important to realise that discussion groups are not necessarily limited to supervisory problems. They may relate to a score of other issues with which a department, or an organisation, is faced. The object of the discussion group is to get at the truth of a selected subject by co-operative effort.

Besides securing concrete results in relation to the subject under discussion, the discussion group fulfils three other functions: Firstly, it serves to train all members to investigate a subject from every possible angle; to sift and test facts; to examine articles, books, pamphlets, radio-talks, and other sources of information bearing on the subject at issue. Secondly, the discussion group helps in interpreting facts as seen by each member of the group; to clarify his opinions; and to put them in simple language for consideration by the group. Thirdly, the discussion group is invaluable in training members to speak in public clearly, concisely, and with confidence.

In order to conduct a discussion group effectively, an analysis must be made of the members of the group: their experience, their feelings and interests—both collectively and individually. This is essential as it will serve as a foundation for the group's activities.

The technique of the discussion itself is capable of analysis into different functions. The group, first of all, selects a subject for discussion – preferably a common one. The next step is to collect facts from all available quarters: articles, books, pamphlets, radio-talks, and other sources of information. A frame work or outline is then formed for the purpose of discussion by the group leader and a committee consisting of those who have supplied the facts. The fourth—and probably the most important—step is to elect a group leader. This is followed by the discussion itself which is directed and guided by the group leader with the aim of obtaining the maximum value out of it. He encourages all members to participate in the common co-operative effort; he curbs the over-talkative members tactfully, and sees to it that all members are given an opportunity to have their say; he encourages the entire group to give a fair hearing to all points of view.

In the course of the discussion, it is of primary importance that the group leader himself should speak as little as possible: he merely guides,

"ELECTRICITY—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

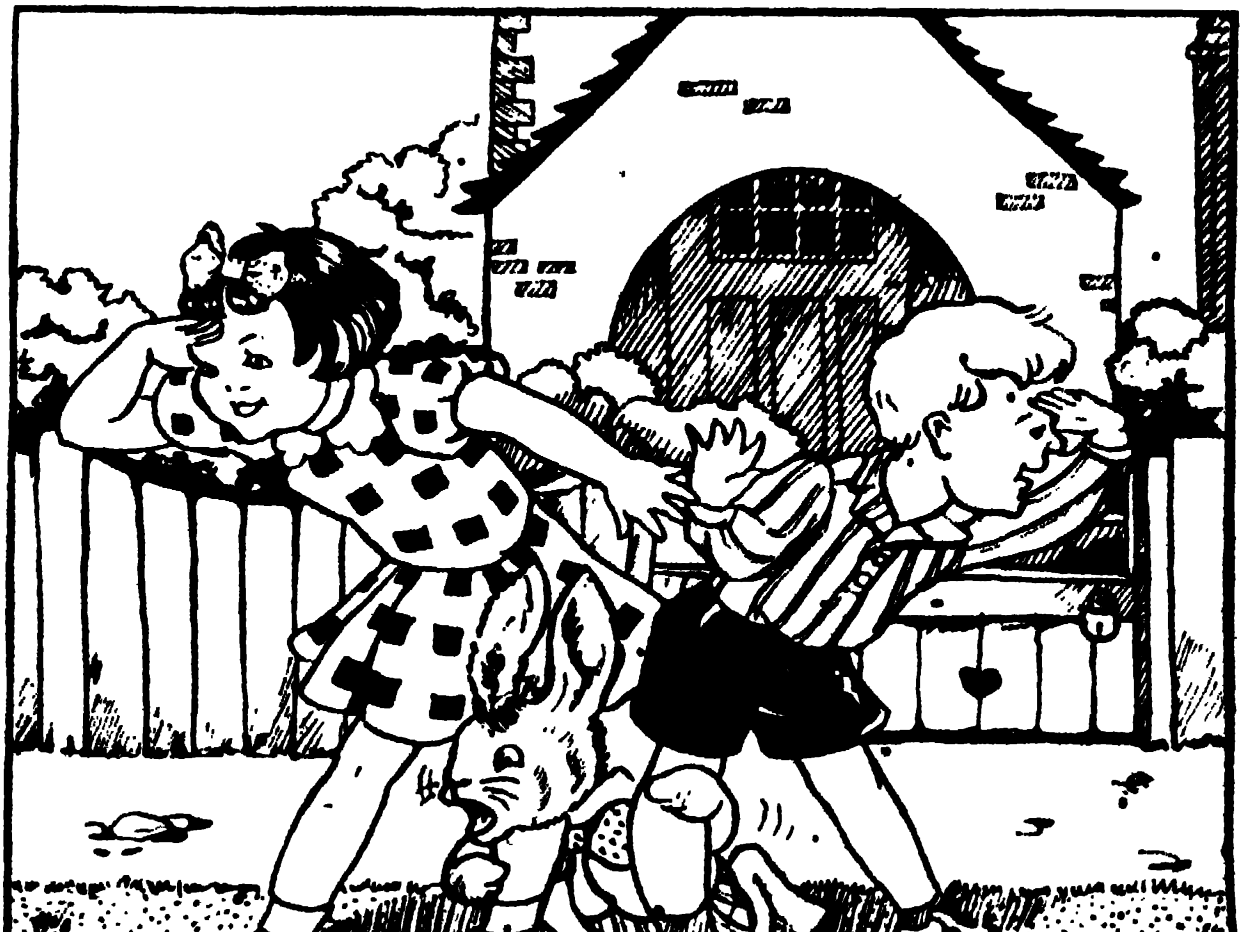
Charles W. Eliot,
(Late President of Harvard University.)

FERRANTI

a name that has been associated with the triumphs of electricity during the past sixty years.

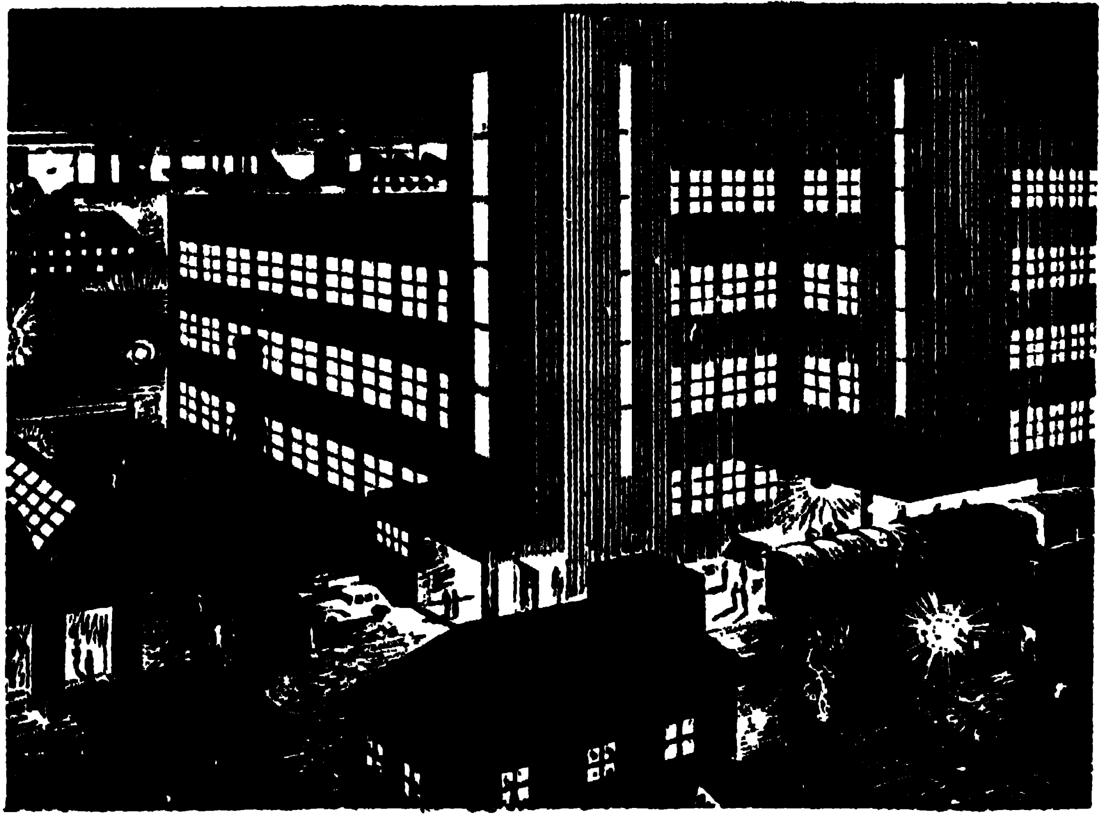
controls, and co-ordinates the ideas of the group. Indeed, the less he speaks, the better, so that his presence at the discussion should be felt through his leadership rather than through his ability to talk. The group leader finally sums up the opinions of the members, not necessarily with a view of finality of action, but with regard to the future activities of the group. In crystallising these opinions, the group leader sees to it that ideas are given concrete expression, and that the agreement of the group is secured as far as possible. In fact, the measure of agreement secured from the group in regard to the subject under discussion is a reliable index of the success of the discussion.

ADVENTURES OF SAMMY HARE



He gave a squeak and leapt right back,
And tightly clung to Jill and Jack.
" Now look both ways this time," said Jill,
And trembling Sammy said " I will ".

(To be continued)



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URBAN TRANSPORTATION

DECENTRALIZATION has been taking place in most cities for many years. However, the trend in that direction during the past two decades, with expansion of the blighted areas in and adjacent to the central business districts, and the resultant decrease in real estate values, has become so accentuated as properly to challenge the best thought of community planners and others interested in the welfare of our municipalities.

While a considerable part of the *residential* decentralization is a natural result of the opportunities brought by the automobile to obtain suburban environments, yet perhaps even more of it is due to the unattractive living and economic conditions existing in the hearts of cities, with traffic and housing congestion, encroachment of business and high tax assessments among the primary factors. Along with residential decentralization has come *business* decentralization. This is in part natural and desirable but in large part it is a highly detrimental consequence of the inadequate attention to the congested conditions prevailing in and adjacent to the central business districts.

These deficiencies can be corrected and must be if the value of our cities as business residential and cultural centres is not to be seriously impaired. To accomplish this it will be necessary to provide properly for zoning, slum clearance and other building regulations, as well as for scientific tax revaluation but equally so, it will be necessary to provide properly for the various transportation agencies essential to the economic life of our cities—automobiles, tram cars, trolley buses, motor buses and taxicabs for the transportation of persons, and, also of great importance, trucks and other commercial vehicles for the local movement of goods.

A Committee of the Chamber of Commerce of the U.S.A. addressed itself to the latter phases of the problem. In their report they present an outline of what is involved and suggest what must be done to enable all urban transportation agencies to function efficiently as a matter of vital public interest. The Committee's recommendations are as follows :

1. Urban planning should make provision for all needed forms of passenger and freight transportation according to foreseeable demands in each community.

2. A basic requisite of the transportation plan is a street system of adequate capacity to handle the local traffic of the community as well as that to or from exterior points, including arterial highways providing free access to central business districts and bypass routes around them

3. The system of arterial highways should provide for public transit as well as individual vehicles, with necessary special facilities and proper co-ordination to reduce to a minimum the interference of each type of transportation with the others.

4 In large cities where excessive congestion exists, subways within central districts for street cars, or in extreme cases for rapid transit trains, should be considered as a means for enlarging the general transportation capacity.

5. To permit major streets and highways to function efficiently public authorities should regulate or prohibit curb parking to the degree necessary to prevent undue interference with moving passenger and freight traffic and with essential curb loading and unloading of passenger and freight vehicles.

6. Public authorities should encourage the provision of private offstreet parking facilities for hire on a stable basis, without the threat of unfair

(Continued on page 295.)

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LABOUR AND PRODUCTION—II

PARTNERSHIP FOR OUTPUT

By the Labour Correspondent of the *Financial Times.*

(*By special permission.*)

INTENSIFYING the workers' current attitude to production due to the reaction from the intensive war effort (described in an earlier article) is a growing disillusionment with the reality behind the policy of the Labour Government. Few, no doubt, were ingenuous enough to imagine that the General Election was ushering in an immediate period of progress and plenty for the organised workers. But even the most cautious among the sceptics have been shaken by a number of events.

Trade unionists are fully aware of the formidable difficulties that would confront any Government in the immediate post-war period. The sudden end of Lease-Lend, threatened world famine, shortage of fuel, cigarettes and clothes are recognised to be legacies for which the Government has no direct responsibility. The trade unionist does not quarrel with the Government's nationalisation measures, but is critical of the way they are working out.

Workers Unsettled: While employers and the City groan under the growing volume of legislation for State interference in industry and finance, little practical outcome is seen at the workshop end. The organised workers hoped and expected that a Labour Government was going to apply to peace-time industry the same detailed planning as operated in war time. On the contrary, at workshop level there seems to be less conscious planning and direction every day. Decisions appear to be taken by the employer or his trade association, perhaps with some collaboration with officials, but without effective consultation with the workpeople or their representatives.

Hence the growing restiveness not only of the rank and file but also of the trade union leadership. Uneasiness over home policy is enhanced by the apparent worsening in foreign relations. This aggravates the sense of economic insecurity which had been virtually absent for something like five years.

Against this background the tendency has been to revert to traditional trade union policy. This means, first, a defensive clinging to privileges already won. It works itself out in rigidity over lines of demarcation which hamper technical progress. It discourages any move to depart from the more or less automatic process of operating "dilution in reverse," although on the buoyancy of a conviction about an expanding economy a more practical give-and-take would have been possible. The suspicion that there will be a short period of post-war prosperity followed by a depression prompts that attitude of mind which sees present output as the enemy of future employment—"making the work last." Because productivity is considered none of the worker's business, in some instances improvements in conditions are exploited—as has happened with the guaranteed week on certain building jobs.

Journeys of the Future

To-day thousands of people traverse this vast land by rail, whether it be for private or business reasons

With growing national consciousness, the desire to see and know their own great country will impel many more to travel. Where thousands travel to-day tens of thousands will travel to-morrow

In this essential service as in many other fields of industry and commerce, steel—the metal of strength—plays a conspicuous and vital part.

IMPROVED AMENITIES FOR LOWER CLASS PASSENGERS

Presenting the 1946-47 Railway Budget Sir Edward Benthall said

Intensive study of new coach designs promises more comfortable travelling for inter and third class passengers with sleeping accommodation for both classes and better lighting and fans for inter-class compartments There will be increased space per passenger

An Artist's Impression of a new type of coach.

·TATA. STEEL·

Issued by The Tata Iron & Steel Co., Ltd. Head Sales Office: 102A, Clive Street, Calcutta.

Secondly, more and more the unions seem to be reverting to their old policy of fighting along traditional lines for improved wages and conditions for their own particular members, regardless of the wider consequences. The spearhead in the campaign for higher wages has always been the better organised and, therefore, relatively better-paid industries. They make the pace. The rest follow. Therefore, Transport House has resolutely set its face against any interference by the Government which might undermine this tested strategy.

Government's "Oversight": In its preoccupation with legislative measures and formidable day-to-day problems, the Labour Government appears to have overlooked, or ignored, perhaps the most important plank in its platform. It has failed to carry the organised workers along with it by offering them an effective part in reorganising production and raising output.

There are no doubt good reasons for this "oversight." Any move in the direction of "democratising" production and economic planning inevitably raises new and different kinds of problems. It lays Ministers and officials open to intense pressure from below. Consequently, it calls for far greater clarity of aim and much patient explanation—which, at times, could be very awkward for any government. It invites sharper conflicts between sectional interests. Sooner or later it may have far-reaching social consequences.

The trade union leaders now pressing for union participation in production questions and more thoroughgoing planning are just as aware of all this as the trade unionists, and the non-unionists in Mr. Attlee's team. Even so, they are forced by circumstances and gathering conviction to pursue their demands. The alternative, as they see it, is failure.

The Remedy: In their view, unless something is done quickly to break up the production apathy, the whole programme of the Labour Government will be jeopardised and a serious political and economic setback will be inevitable. From their contacts with their members they feel that the only way forward is to make a serious effort to recapture the spirit which won the battle for production during the war. Given the right structure for harnessing the initiative and enthusiasm of the man on the job and a clear lead from above they think it could be done.

Hence the emphasis on "planning." The concept here is that the tasks of industries and different branches of them should be clearly defined in quantitative terms so that specific "targets" could be set for individual units of production. This device of setting targets proved highly successful in munition factories. The production "team" was stimulated to reach a clearly defined goal, in a spirit of emulation. Under these conditions, inventiveness, esprit de corps and morale reached a high level. Advocates of the kind of planning which would facilitate this technique fully recognise that the conditions are not quite the same as during the war. But they think that some effort to apply the lessons of war time is worth making; that the only solution lies along parallel lines.

Give and Take Necessary: This approach, of course, involves some modification of the attitude on both sides in industry to such ticklish questions as pay and conditions,

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Standard Building, Hornby Road, Bombay.

which are, of course, closely linked with production. There would have to be give and take; but the substitution of co-operation for the present sharply opposing stands would, it is felt, overcome many obvious difficulties.

It involves also a great propaganda campaign not only to drive home the hard realities of Britain's economic position, but also to convince the mass of the workers that a big rise in output per head is in their own interests.

Here the Government would encounter no opposition. Most of the leading trade union leaders and the workshop leaders are already convinced. What they complain of is that they are not getting from the Government that co-operation which would enable them, in turn, to convince the rank and file.

At the same time, the leaders point out that to increase output per head is not primarily a question of the individual "working harder." Rather do they stress more, and more modern, equipment, better organisation and clear-cut production objectives based on a comprehensive plan for reconversion as a whole. While all this, plus opportunities for increased earnings, linked perhaps with productivity, cannot be provided overnight, nevertheless, much could be done quickly, if the two sides in industry and the Government were to tackle the problems together in the war-time spirit.

It is clear that the Government has seen some of the dangers of a continued lagging of production. The decision to call for next month a big conference of trade union executives (to be followed by a parallel conference with employers) is a first move in the right direction. If this is a move to take the actual producers into closer partnership, the beginning of the turn may be coming.

Absenteeism

In a recent talk to miners, Sir Charles Reid, designate-member of the newly formed National Coal Board, compared absenteeism in the mines with a football team playing several men short.

"I wonder what would happen," he said, "if the members of your football team were to make up their minds that they were not going to play with regularity, and the manager of the team on a Saturday, just before the match, found that the goalkeeper, one of the half-backs and a forward were missing. They have never even troubled to send him word they cannot come, and he has to rely on substitutes who are nothing like so good.

"This is precisely what happens in the pits when the management find in the morning that the teams are incomplete, that some of the putters are taking a day off and the men on the coal faces are short. How can you expect a full output?"

Write the Last Line Competition

The Editor has awarded a prize of Rs. 5 for June, to Mr. D. E. Pereira, 42, Ranwar, Bandra, who submitted the following *missing line*:

"What a headache" groaned night-owl *McBride*,
As he came on the job, droopy-eyed,
But he not only grumbled—
He fumbled and stumbled
On every job that he tried.

Do You Work In
N O I S E ?
If so, You Need

MALLOCK-ARMSTRONG

Ear Defenders

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FOOD YEAST

DURING the past four or five years, experiments of various kinds have been carried out to ascertain the nutritive value of the dried food yeast manufactured at Teddington. The results of these experiments, which form the scientific justification of the belief in the nutritive value of food yeast, can be conveniently considered under three different headings.

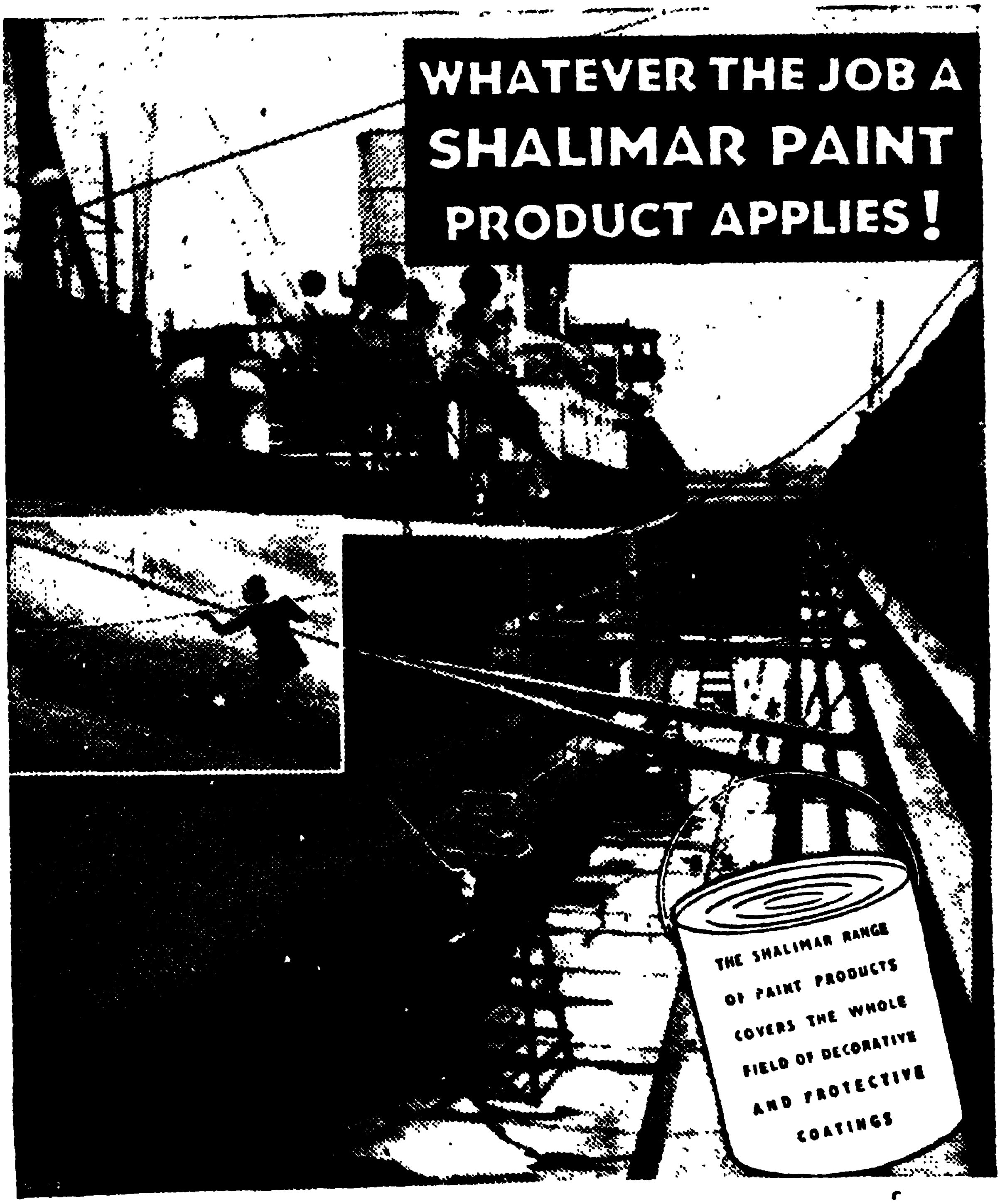
Chemical Composition: Chemical analysis showed that food yeast is rich in protein, containing about 45 per cent of this dietary constituent on a dry weight basis, and also in minerals like calcium and iron. Physico-chemical tests on the vitamin content of food yeast have yielded more encouraging results. Vitamin B1 content, varying from 1.4 to 2.7 mg. per 100 g., showed that food yeast is richer in this vitamin than all other foods except some samples of brewer's yeast. Food yeast is also a valuable source of Riboflavin, containing on the average at least 6 mg. per 100 g. On this basis, about an ounce would provide the average daily human requirement of Riboflavin which is estimated to be about 2 mg. The results demonstrate that food yeast is a good source of protein and a first-rate source of the B group of vitamins.

Animal Experiments: The results of chemical analysis have been amply supported by animal feeding experiments. Though yeast is inferior, when given as a sole source of protein to animals in growth tests, yet when combined with diets consisting mainly of cereals it even enhances the nutritive value of the latter. This interesting result was found to be due to the fact that yeast is poor in sulphur containing amino-acids like methionine and rich in lysine while cereals are vice versa. This complementary action of yeast protein in cereal diets is obviously of great importance to India where the diet of the vast majority is based mainly on cereals. Further experiments with rats in England and also in Coonoor have definitely shown that food yeast being a good source of protein and the B group of vitamins, greatly improves the nutritive value of a diet whose protein is otherwise derived mainly from cereals. In fact, the biological value of the mixture of cereal protein with those of yeast is equal to that of a similar mixture with those of milk.

Trials on Human Subjects: Dried food yeast has been found to be an acceptable and generally palatable food for human subjects, both children and adults. Food yeast has been successfully added to bread and biscuits without impairing their palatability. Extensive trials are being made to incorporate food yeast in palatable Indian dishes and several good recipes have already been suggested. In general it is easier to add yeast to the wheat eater's diet than to that of the rice eater. Hence further trials are needed before complete success is achieved in this direction.

It has been found that the maximum daily dose for an adult under ordinary circumstances is about ¾oz. of dried food yeast. However, at least ½oz. can be taken daily without risk of digestive disturbance. Though this amount of yeast will increase the quantity of protein only to a small extent, the quality of the poor cereal diets is disproportionally improved. Several trials have provided that a small daily dose of yeast improves their nutrition of under-nourished children. In Nigeria subjects with symptoms of deficiency of B2 Vitamins have shown striking cures after 5·7 weeks' treatment with about ½oz. of food yeast daily.

It is clear that the nutritive value of food yeast has been proved to be such as to justify its large scale production and widespread consumption in India in order to raise the nutritional level of the people at moderate cost.



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COLOUR IN FACTORIES

SIR WILLIAM GARRETT.

As colour has a psychological value in speeding up production, the following extract from the Annual Report of the Chief Inspector of Factories for the Year 1944, London, will be of particular interest to Indian industries in the immediate post-war period.—ED.

AN important movement directed to introducing positive colour into the interiors of factories has recently come into being and has gained great force during the year. The real basis would seem to be a deep revolt against the æsthetic starvation imposed by unrelieved war work. This revolt finds its outlet not only in works music but equally in decoration.

In Manchester one section of an exhibition by the Recruitment and Training Department of the Cotton Board was devoted to displaying restful colours specifically for use in factories, together with definite schemes for painting the machinery, with results already notable locally; and there is hardly a district from which some report does not come forward of colour being introduced in works formerly draped in unmitigated grey.

Many Inspectors report enthusiastically on the matter, and their approval repeatedly covers not only considerable positive results, but a wide and interesting range of as yet unproved possible benefits, varying from improved mental and moral tone to potential reduction of accidents. A woman chargehand in a South London works, for instance, hearing that her department was to be repainted, asked that the existent brown mud colour should be covered with something more cheerful. The idea was new to the management, but was adopted and eventually carried throughout the works. At a large engineering works in the Midlands, all the machines have been painted a buff-cream shade. Working parts, such as tools and operating levers, are unpainted, and guards are red. Workers at first objected because the place looked, it was said, like a dairy, but have come to like the change. The general impression is that the bright appearance of the machines, which affects the whole atmosphere of the shop, has had a correspondingly beneficial effect on the workers. A subsidiary advantage is that the machines are kept cleaner and waste of oil is more easily observed. "The change," says one Inspector, referring to a newly painted cotton-mill, "is most striking and has the effect of making the mills look altogether more spacious. The whole status of the work is raised." I might multiply instances almost indefinitely, or in regard to canteens could refer to elaborate mural decorations, not infrequently executed by local schools of art, to the introduction of landscape paintings, to the associated bringing in of flowers and laying out of gardens for the æsthetic satisfaction of workers, all part of a profoundly hopeful civilising movement.

The British Colour Council in co-operation with the Department, has now in preparation an illustrated booklet designed to give expert direction on choice of colours suitable and available for use in a very wide range of working conditions and environment. One cannot fail to be convinced that in making the factory a place of human habitation the introduction of live colour is an essential element.

For durability & Modern Make up
Select
RAIPUR MILLS'
Varieties:-
Merce Dhoty, Merce Lawns
Beautiful Saries, Merce
Poplins, Shirtings Twills,
Dorias, Handkerchiefs, etc.

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DIARIES ARE GOOD ADVERTISING IF..

MANY firms make it a practice of issuing diaries as part of their advertisement campaign. This purpose, unfortunately, is frequently defeated through carelessness in planning or indifference in printing. The latter weakness can be readily remedied by entrusting the printing of diaries to reliable presses. But planning a diary is a more difficult job. The suggestions which follow are meant to enhance the advertisement value of your diaries by improving their utility and thus making them popular with your clients, both present and potential.

(1) The week-to-an-opening type of diary has the advantage that each day of the week is given a fixed position throughout the year. Monday to Friday are given a full day's space, whereas Saturday and Sunday are given half a day's space each.

Some diaries provide 6 panels to a page. Besides being a non-standard practice, each day has a different position from week to week. Some diaries have 8 panels to a page, a panel for each day and the eighth for memoranda.

(2) There is no standard practice in the matter of public holidays; they vary according to the provinces. Diaries should indicate *all* public holidays, not only for their local value in different provinces, but also because a holiday in another province may require you to address urgent letters or to wire differently.

(3) Most diaries provide calendars of the past year and the following year. The current year is ignored. This is a mistake, as it is most convenient to have a calendar of the current year prominently before you. The best place for this is on the cover page where it is readily accessible, and prominently visible whenever the diary is closed. This suggestion is rarely carried out, probably because the cover page is of great advertising value. But to ignore this suggestion is short-sighted, because any other practice detracts from the usefulness of a diary.

(4) Diaries generally contain information on postage and other subjects of general interest. This information is usually poorly condensed and takes up more room than is necessary. General information should be properly scheduled, indexed in thick characters, and placed in alphabetical order for easy reference. Information that is most useful is the following: Postage, Taxation, Provinces and Governors, Ministries, Secretaries, Holidays, Tides, and other calendars.

(5) Since the information required by each person differs according to his specific requirements, the ideal diary would be a loose-leaf one to enable the individual to insert whatever information he needs for ready reference.

From an examination of many diaries, the following ideas have been extracted:

(*a*) A thick or double line is ruled between months to indicate clearly the close of one month and the beginning of the next. For example:

January 31st
February 1st.
or
January 31st
February 1st

(*b*) For the convenience of motorists, lighting up times, road distances, mileage summary and formulæ are provided.

(*c*) In the general information section, it is convenient to include dates of important anniversaries under suitable headings. For instance, a Minister of Religion would be interested in knowing the date on which Ash Wednesday, Good

The Indian
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METALS
Ltd.
SEWRI, FORT ROAD.
BOMBAY, 15.
Managing Director:
N. B. BHAGAT.
WE MANUFACTURE
STEEL, BRASS, COPPER
AND ALUMINIUM EXP-
-ANDED METALS IN ALL
Sizes
PHONE, 60445. GRAMS:-"EXPEEYAM"

Friday, and other important religious anniversaries fall.

(*d*) People who play cards would like to have the rules and score-tables of Auction and Contract Bridge.

(*e*) Most people could do with tables of weights and measures.

(6) As new diaries are frequently late, it is important to allow full diary space for January and a few blank sheets for the following months.

(7). The last but probably the most important suggestion is that diaries should be printed and issued early in December, so that the user has sufficient time to transfer entries of anniversaries and other important days from the old to the new diary. If this is not done, your clients will be inconvenienced and use a competitor's diary which is on time. This should be borne in mind if the diary is regarded as advertising material.

* * *

Brain teasers

1 I have two lamps, one of four-candle power, and one of nine-candle power. If the former is 30 feet distant, how far away must I place the latter to give me the same amount of light ?

2 Two ducks before a duck, two ducks behind a duck and a duck in the middle, are how many ducks ?

3 A man has a square plot upon which he wishes to build a house facing the street, with a driveway around the other three sides. He wants the house to cover the same amount of land as the driveway. How wide shall he make the driveway, the plot being 100 feet each way ?

4 1 × 2 × 3 × 4 × 5 × 6 × 7 × 8 × 9 × 0 = ?

5 A cow is tethered to the corner of a barn 25 feet square, by a rope 100 feet long. How many square feet can she graze ?

DO UNTO OTHERS. . . .

COURTESY appears to be a forgotten virtue today. We meet with rudeness in almost every walk of life: whether in the street, in our shops, or on public transport vehicles. The War with its inevitable shortages is probably responsible to a large extent for the decline in courtesy in our business relations; overcrowding is probably to blame for some of the rudeness which confronts us in buses and trams. But whatever the cause, there is little doubt that discourtesy has become a habit with us—a habit which we must break at all costs.

There is a fundamental law in Physics that to every action there is an equal and opposite reaction. This law holds good also in the sphere of our business and social activities. In ordinary language, if you expect courtesy from others, you must be courteous with others; if you expect service from others, you must learn how to ask for it.

I had an opportunity recently of studying behaviour in war-frayed London. From this study, I have developed a technique consisting of nothing more than good manners—which has won civility and prompt service in all directions, whether it be in securing accommodation, or a table in a hotel, or in shopping, or in travelling.

The success has been so outstanding that I have made many friendships amongst the wide circle of tradesmen by whom I have had the privilege of being served. Many have volunteered compliments—"If there were more customers like you, it would make a world of difference." Many have put aside supplies for me. Some have gone to the extent of telephoning to say that something or other that I wanted is available, and would I please call for it at my convenience. The notices NO CIGARETTES TODAY or NO BEER mean little to people who are courteous and considerate in their approach for these and other similar scarce amenities. They invariably receive supplies from "under the counter."

On obtaining commodities which are in very short supplies, friends have frequently asked me how I do it. The technique is simple. But it all depends on how you practise it. The first principle is to give consideration and service without any thought of reward. This is absolutely fundamental. The longer you practise this tenet, the more pleasure you will derive in serving others. Every day offers you opportunities to be considerate of the welfare of others. You may offer your arm to a blind, aged, or young person and help him across a street. You may hold the shop door open to allow the person following you to enter or leave without the possibility of the door banging in his face. You may close the shop door to keep the draught out. These are just a few of the opportunities which come your way ever so frequently.

An equally valuable principle is to treat all people with unwearying courtesy and respect. A pleasant "Good Morning" makes a most useful introduction. A smile relieves tenseness of facial expression and adds warmth to your voice and your greeting.

Every individual, whatever his status or profession may be, likes to

Post War Reconstruction??

IF IT REQUIRES:-

WHEEL BARROWS, CONCRETE MIXERS OR ROAD ROLLERS

THEN SEND YOUR ENQUIRIES TO

C.A.S

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BRANCHES: BANGALORE, OOTACAMUND, TRICHINOPOLY AND HYDERABAD (DN.)

feel that he is doing an important job. The truly courteous person does not ignore this basic fact.

The response you receive from people is influenced, to a surprisingly large extent, by your tone and accent. The point is to act and speak naturally, and more or less on the level of the person you are speaking to. An Oxford accent may be invaluable in the social circle to which you belong, but it will not take you far with an ordinary shopkeeper, or an uneducated tradesman.

Plan to set aside a little extra time, when it is mutually convenient to exchange pleasantries with those on whom you call for service. This will help you overcome a lot of hesitancy in the opposite number, and will win you his acquaintanceship, if not his friendship. The weather is always a suitable topic with which to open. As opportunity offers, you can throw in a word of appreciation of some service you have received. Most people can do with a word of praise. There is nothing derogatory in this ; for we all like our efforts, however humble they may be, to be appreciated. Most people like to be taken notice of. Enquiries about their health, or that of their families, show that you are interested in them. Be prolific in the use of THANK YOU. This costs little, and when said with sincerity means so much to the recipient.

I have used these simple principles through several years, and they have always brought me handsome dividends by way of greater mutual satisfaction. But a word of warning is necessary. True courtesy springs from an enlightened heart. It will not do merely to put on an act. Your behaviour must be founded on a genuine desire to "Do Unto Others As You Would Have Others Do Unto You."

Urban Transportation

(Continued from page 281)

competition from free or below-cost facilities provided at public expense.

7. Parking regulations should recognize that practically every building, including residences, requires frequent or occasional service by trucks, and should make such service feasible.

8. Where the volume of commercial vehicle loading and unloading justifies, offstreet facilities therefore should be required for new buildings. This requirement should apply to existing commercial buildings where economically feasible ; otherwise, curb loading zones should be established for the exclusive use of commercial vehicles during reasonable pick-up and delivery hours.

9. Since, notwithstanding all measures which can be provided at reasonable cost, the traffic and transportation problems in many centres will remain difficult, every effort should be made to facilitate and encourage the use of transit service as in the public interest.

10. Taxicabs, in communities where there is extensive demand for their service, should be regulated as common carriers and reasonably restricted as to number ; they should be encouraged to establish fixed stands and to limit cruising , proof of financial responsibility should be required of their owners and charges should be determined by the taximeter.

11. Efficient public passenger transportation can best be attained through private operation under proper regulation, centralized as to each metropolitan area in a single body with jurisdiction over all types of carriers and with increased emphasis on improved facilities and service.

12. The use of staggered work hours to spread transit and street traffic peaks should be encouraged as a continuing contribution to efficiency and relief of congestion ; further experimentation should be made with limited stops, turn-backs, express service and other methods of expediting transit operations ; unwarranted extensions and other unprofitable services affecting the financial stability of the transit carriers should be discouraged

Let your plans for post-war reconstruction include

'HOLLERITH

Electrical Punched Card Equipment

WHICH IS USED THE WORLD OVER FOR ALL FORMS OF ACCOUNTING, COSTING, STATISTICS AND OTHER RECORDS.

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POONA - TATANAGAR - MEERUT - JUBBULPORE - KIRKEE - SHAJAHANPUR - KHAMARIA
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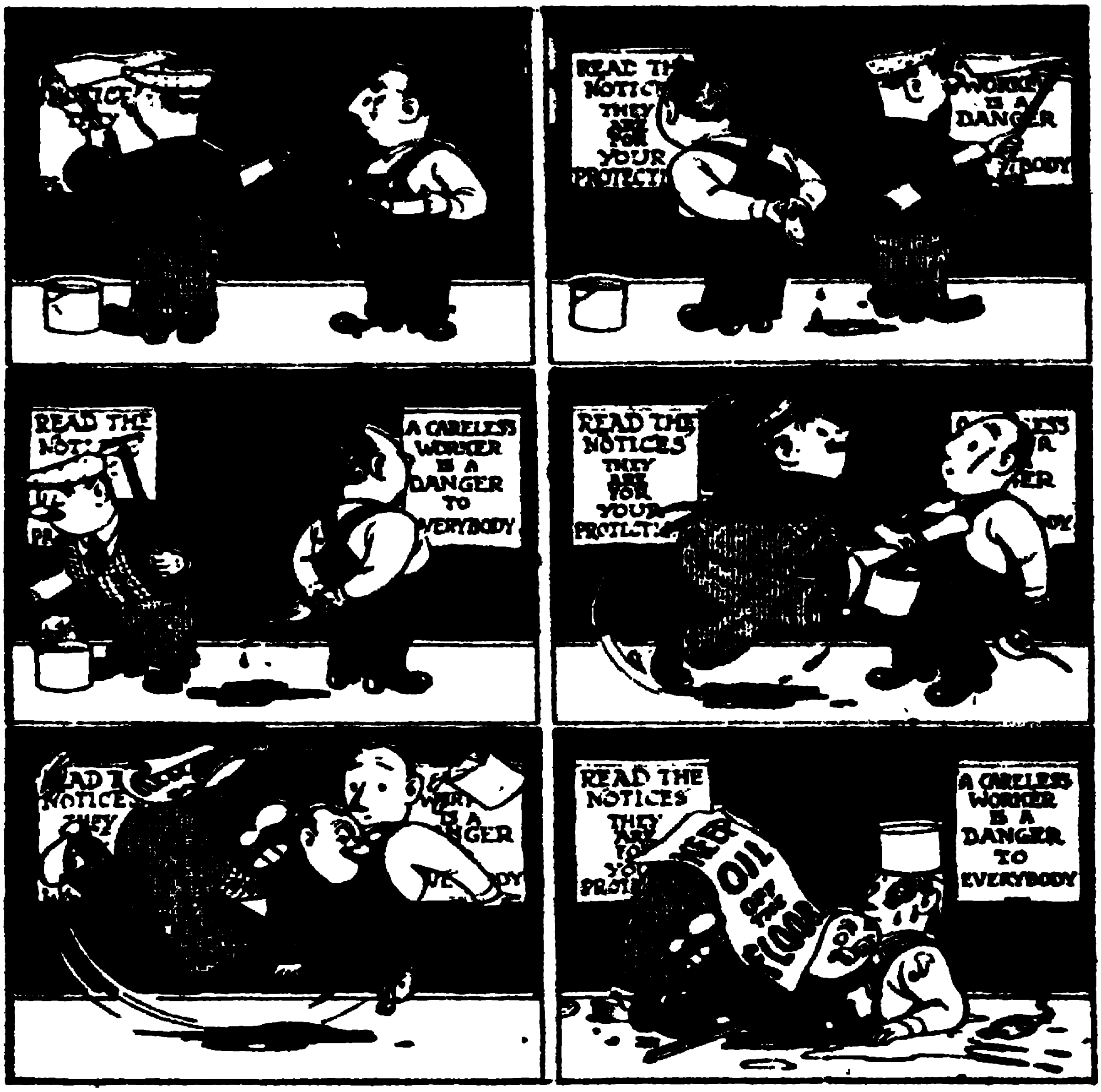
ADOLPHUS THE HUSKY

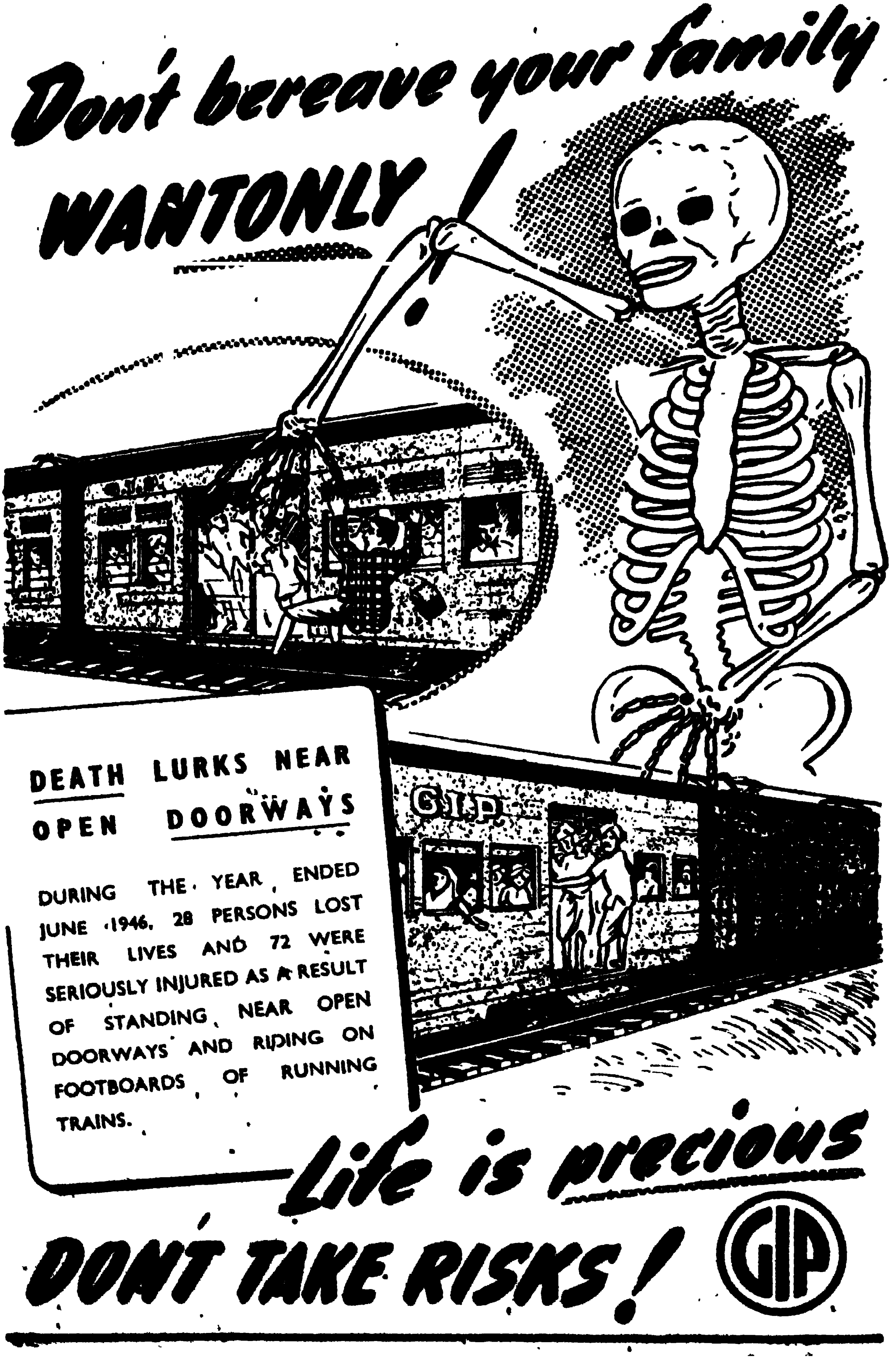

READ THE NOTICES THEY ARE FOR YOUR PROTECTION
A CARELESS WORKER IS A DANGER TO EVERYBODY
OIL

Adolphus was a husky chap
Who laughed at cuts and scratches.
He cared for bruises not a rap
And scorned adhesive patches.
One afternoon, not heeding much,
He slightly cut his finger :
'Twas never in his thoughts that such
A trifling ' scratch ' could linger.
For days he laughed and worked and played,
All germs and dirt defying.
Till when, too late, he sought first aid
The Doctor said ' You're dying '.

REMEMBER, ONCE THE SKIN IS BROKEN,
THE WAY FOR DEADLY GERMS IS OPEN.

Courtesy—*R. S. P. A.*

These cartoons in a coloured booklet form are available at the Safety Bookshop, Electric House, Fort, Bombay, at as 4 each.


Don't bereave your family
WANTONLY!
G.I.P.
Life is precious
DON'T TAKE RISKS!
GIP

DEATH LURKS NEAR OPEN DOORWAYS

DURING THE YEAR ENDED JUNE 1946, 28 PERSONS LOST THEIR LIVES AND 72 WERE SERIOUSLY INJURED AS A RESULT OF STANDING NEAR OPEN DOORWAYS AND RIDING ON FOOTBOARDS OF RUNNING TRAINS.

Importance of First Aid

John Doe was regarded as a brilliant man—and an extremely busy one. He had acquired a vast fund of knowledge about certain things, and his services were constantly in demand. One day his services were needed as never before, but he suddenly discovered, much to his horror and dismay, that he was unable to do the one thing in the world he most wanted to do—save a life.

While Doe and his 10-year old boy were enjoying a drive through the country one day, they met an unexpected visitor—accident! The boy was badly injured, but the father was not. The bright red blood spurting from a wound on the boy's throat was very serious ....Doe knew that....But what could he do to stop it? To him, a tourniquet had always been just another word in the dictionary.... With all his learning, digital and direct pressure meant very little.... First aid had always seemed such an insignificant subject compared with what he was doing but now, faced with an emergency, what he wouldn't give to know a little about it. Before help could arrive, the boy died in his father's arms.

Importance of position in life is no assurance against injury. The important question is: "Are you qualified to meet an emergency where first aid is required?"

* * *

Personnel Officers

Personnel Officers are those persons specially qualified by training and experience to advise in the formation of personnel policy; to secure understanding and application of that policy at all levels of the organization and to be responsible for the appropriate executive duties arising therefrom.

"Family" Good to Know

The Father of Success is Work,
The Mother of Success is Ambition,
The Oldest Son is Common Sense,
Some of the other boys are Perseverance,
Honesty, Thoroughness, Foresight,
Enthusiasm and Co-operation.
The Eldest Daughter is Character,
Some of her sisters are Cheerfulness,
Loyalty, Courtesy, Care, Economy,
Sincerity, and Harmony.
The Baby is Opportunity.

Get well acquainted with "the old man"—WORK and you will be able to get along pretty well with all the rest of the family. *L. A. Williams.*

* * *

Correct Filing

Your filing department costs you more than you think it does. Correct filing will save you time and money.

Better have a look at your files. If you find them congested with bunches of dog-eared papers, and if it takes from five to ten minutes to find a paper, then your files need an overhaul.

Here are four suggestions:—

(1) Use guide tabs, so that papers can be found more quickly.

(2) When a paper is taken out, insert an "Out" card.

(3) Clean out and destroy papers frequently.

(4) Have one file for temporary papers that can be destroyed in six months.—*The Efficiency Magazine.*

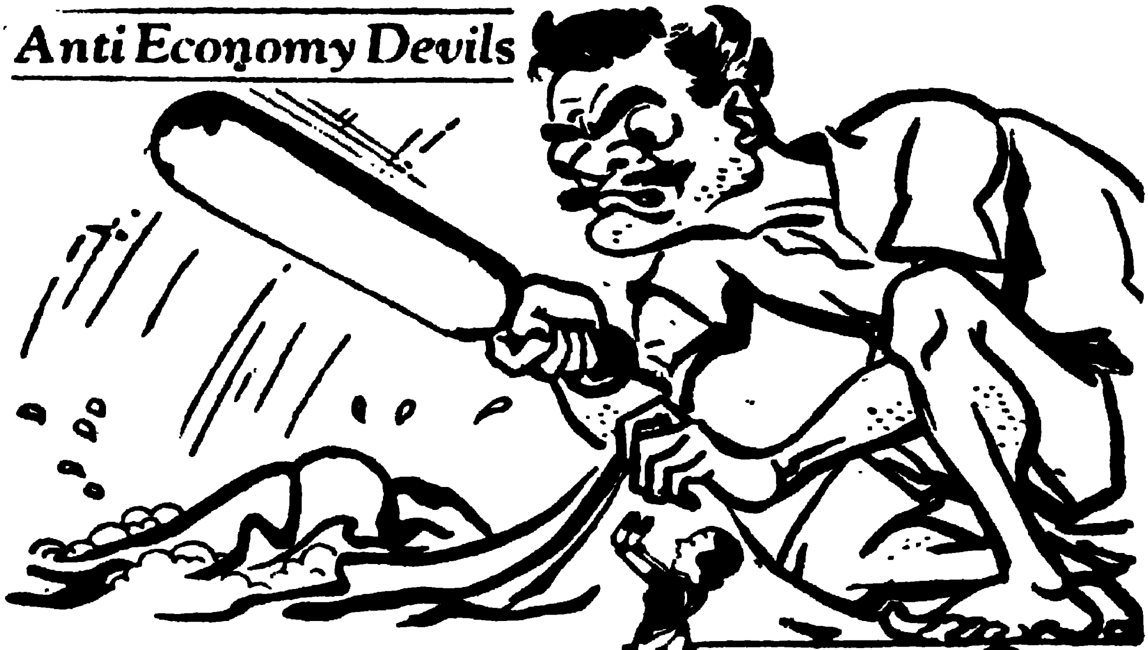
* * *

Keeping Customers

In American airports which buzz with life the following mottos are displayed and are hundred per cent acted up to. They are—

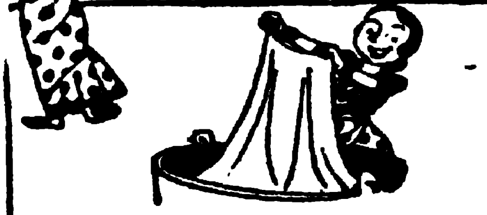
1. Customers make our business; customers will keep us in business.
2. There is no excuse for lack of courtesy, no excuse for being impatient.
3. There is no legal rationing of politeness, no curtailment of smiles.
4. There is no official ceiling to be pleasant while on the job.—(*The Madras Journal of Co-operation*).

Anti Economy Devils



THE BLUDGEONER

A quaint method of washing clothes, dating back presumably to cave-man days—when the prevailing idea was that the harder you hit anything the better the result ! Clothes however aren't made to stand up to such barbarous treatment. Then why shorten their precious life, when all you need do is to follow these simple hints for better and more economical washing ?



SOAK *clothes in warm water. This helps to loosen dirt.*

USE 501 SOAP SPARINGLY—*just as much as is necessary. This will save soap and preserve your clothes.*

RINSE THOROUGHLY *in clean water to remove all traces of soap—and for spotlessly clean clothes of which you'll be proud.*

501

WASHING SOAPS

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THE TATA OIL MILLS CO., LTD.

EFFICIENCY NEWS, September 1946.

STRIKES, MANAGEMENT AND ADVERTISING

By H. C. Jain,

Director, National Advertising Service, Ltd., Bombay.

We are indebted to Mr. Jain for permitting us to reproduce his timely article on the prevalent labour unrest and its cure. We take pleasure therefore in presenting our readers with this vital and timely discussion though in a somewhat abbreviated form Ed.

INDIA has never witnessed a period so replete with strikes as it is doing today. In Bombay alone, since the beginning of this year upto the 29th of July, there have been more than 300 strikes* from industrial disputes alone, besides the political hartals. Almost everyone seems to be getting fed up with the exception of perhaps those who are on strike. Someone remarked in utter disgust the other day that the last war gave us influenza, this has given us strike fever. What we are experiencing now is merely a foreshadow - a foretaste of much more that is yet to come.

The medicine for this fever, as far as management is concerned, is to treat labour as human beings; as men and women who desire security, justice, and self-respect as much as anybody else; and it should do its best to provide these.

Besides providing improved service and working conditions, it should advertise to win over the workers and to educate the public. To do this, it should employ the same techniques that have been so successfully used by the management to sell its products, its wares, its services.

To its labour, the management should trumpet about all the benefits it provides it. The other day the writer met a worker employed in a really progressive company which is doing all it can for its employees and asked how he felt about the benefits his employer was affording him. The writer was surprised when the worker replied: "Oh! This is being done because of the law; the Government wants it." Labour takes all the benefits provided to it for granted. Even the gains in wages and working conditions are credited not to the company, but either to the Union or to the Government. What use is it to do so much to win the public, if a company cannot win its own employees? It is very vital, therefore, that whenever a company institutes a benefit, it should put selling effort into it; it should let everyone of its employees know that it is just because the management is really interested in the welfare of its workers that it is providing this or that benefit.

No man can take any interest in his work if he does not know why he is doing it. The management, therefore, should tell each one how his or her work contributes to the finished product and to which purpose the product is used. Each company should have an employee publication—a type of House Organ—which should play up in its columns whatever the company does for its employees. Each worker should receive a copy of the company's annual report, and this should be so written that he can easily understand it. (See "Efficiency News," March 1946.) Neat and interesting booklets and folders explaining the policy of the company, and the benefits it affords its employees should be compiled, and these should be presented to every worker at the time he is appointed.

Business should advertise not just to sell its products, but to explain to the public plain economic truths, to sweep away the accumulation of false propaganda which the opponents of competitive systems are continuously spreading before the public. Some one has suggested that at least 10 per cent of the time and money that business spends on product advertising should be spent on explaining to the public the economics of private enterprise.

At this stage it will not be out of place to repeat what Christ said about 1900 years ago "Therefor all things whatsoever ye would that men should do unto you, do ye even to them." If this golden rule is applied to all relations between management and labour, it would render unnecessary all labour unions, and labour legislation, and industrial peace and prosperity would reign. Labour and management should not behave as enemies. Both should drop the feeling of antagonism and distrust. Both should realise that the interests of the labour and the capital are identical - the objectives the same. Both should co-operate with each other and it is only in this way that Indian business and industry can progress and with it Indian labour.

---

*During the 13 months ended April 1946, the number of man-days lost exceeded 70,00,000.

* * *

Solution to brain teasers

1. 45 feet.
2. 3.
3. 19.1
4. 0.
5. 30,290 square feet.

Those Deadly Blondes

Now comes a story from a responsible chemical safety engineer, *via The North American Fieldman* and *The Weekly Underwriter*, both respected publications in insurance circles.

Two trained women operators in a manufacturing plant were mixing powdered magnesium and potassium perchlorate in a mixer commonly called a "sweetie barrel." They were instructing a new employee—a sparkling blonde. As they were dumping the batch from the mixer, the blonde tried to prevent a lignite ball from falling out of the mixer. In attempting to push the ball back, a spark of static electricity jumped from the hand of the blonde to the metal barrel of the mixer. This spark ignited the contents of the mixer, causing a serious explosion. The two trained operators were seriously burned, but the blonde got off with only minor burns on one hand. The side of the building was blown out.

The blonde was wearing silk underwear which, as she moved about, generated static electricity. Since she was insulated by rubbers over her safety shoes, she became a human condenser. The stored electric charge was discharged when she got her hand near the "sweetie barrel."

The moral to be concluded from this little story isn't to beware of hot blondes in silk underwear (although this isn't bad advice under certain circumstances) but rather that a very small spark sometimes touches off a very large explosion. If you have to be around explosive gas or dust mixtures, beware of what you do. You suddenly may find yourself some place you don't want to be, propelled there by a force you don't like.—*Safety Bulletin.*

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3rd Wimille	ALFA ROMEO
4th Nuvolari	MASERATI
7th Varzi	ALFA ROMEO
8th Sommer	MASERATI

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EFFICIENCY NEWS

Vol. XIII. No. 10 OCTOBER 1946 Price As. 8

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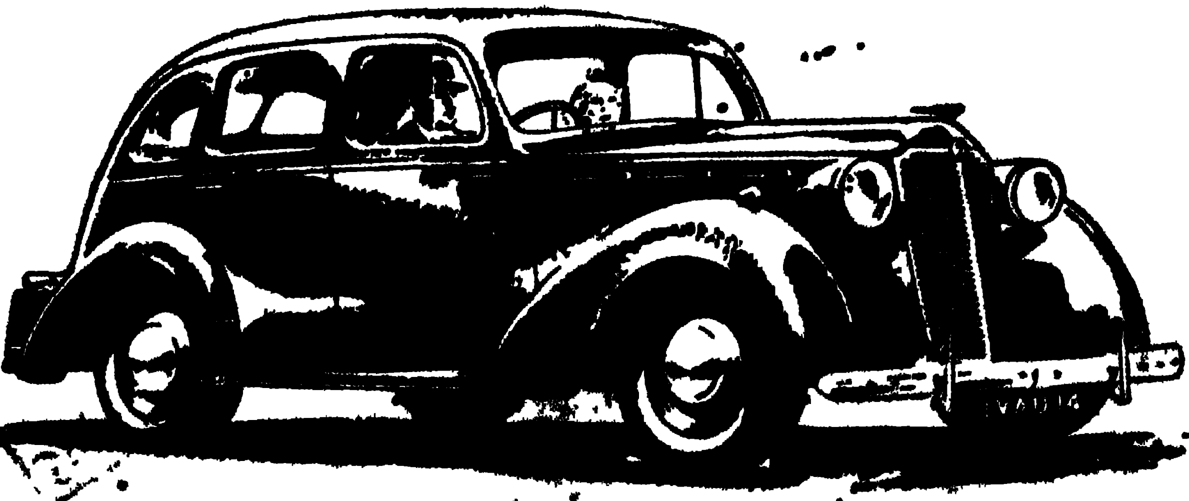

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EFFICIENCY NEWS

Vol. XIII. No. 10 **OCTOBER 1946**

CO-OPERATION IN TRADE

UNTIL recently, it was customary for some manufacturers to form cartels or trusts for the primary purpose of controlling prices—*without any concern for the consumer.*

Cartels have been defined as "agreements as to price; as to the division of selling territory into districts; as to the restriction of output of each member, or as to the share of each member unit in the loss or profit realised by the whole trade." Generally speaking, cartels were developed in Europe, particularly in Germany, where the Common Law permitted such arrangements in restraint of trade.

Trusts, on the other hand, have been defined as "mergers of industrial units where the individual plants become mere technical workshops of one enterprise, under the control of one dominating will." In the main, their development is peculiar to the U.S.A.

The realisation that unrestricted competition leads eventually to destruction, and that co-operation between producers and distributors benefits industry as well as the consumer, led ultimately to the formation of Trade Associations.

Industry, whilst appreciating that competition is both an incentive and a stimulant, realised that the real life-blood of trade is constructive co-operation between integral units.

The primary object of a Trade Association is to base prices on a standard system of costs. Such a policy is most beneficial to the producer as well as to the consumer.

Before proceeding further, it should be made clear that the underlying policy of a Trade Association is radically different to that of a cartel or trust. The policy of the latter is usually to exploit the consumer. A trade association seeks to achieve co-operation between producers for the ultimate benefit of the consumer.

It is true that many Trade Associations do not control prices. But even these secure many other valuable advantages from co-operation.

In modern warfare, the chief concern of industry is the efficient utilisation of our materials, and control of production and costs. In order to achieve these objects, close contact is necessary between Government and Industry. A Trade Association serves a most useful purpose in such cases by speaking and acting for a specific industry as a whole. This explains why the first World War encouraged the formation of Trade Associations. In the peace that followed, the advantages of this co-operation became more apparent, and so the movement spread.

In Britain there are about 2,500 regional Trade Associations. This figure is exceeded in the case of the U. S. A. In India, it appears that we have less than 200 such associations covering different businesses and trades. In order to speed up the industrial development of this country, and in order to secure the benefits of this advancement to industry as well as to the consumer, we urge the formation of Trade Associations to cover all the major trades in the country.

In this age of democracy, the initiative to form Trade Associations

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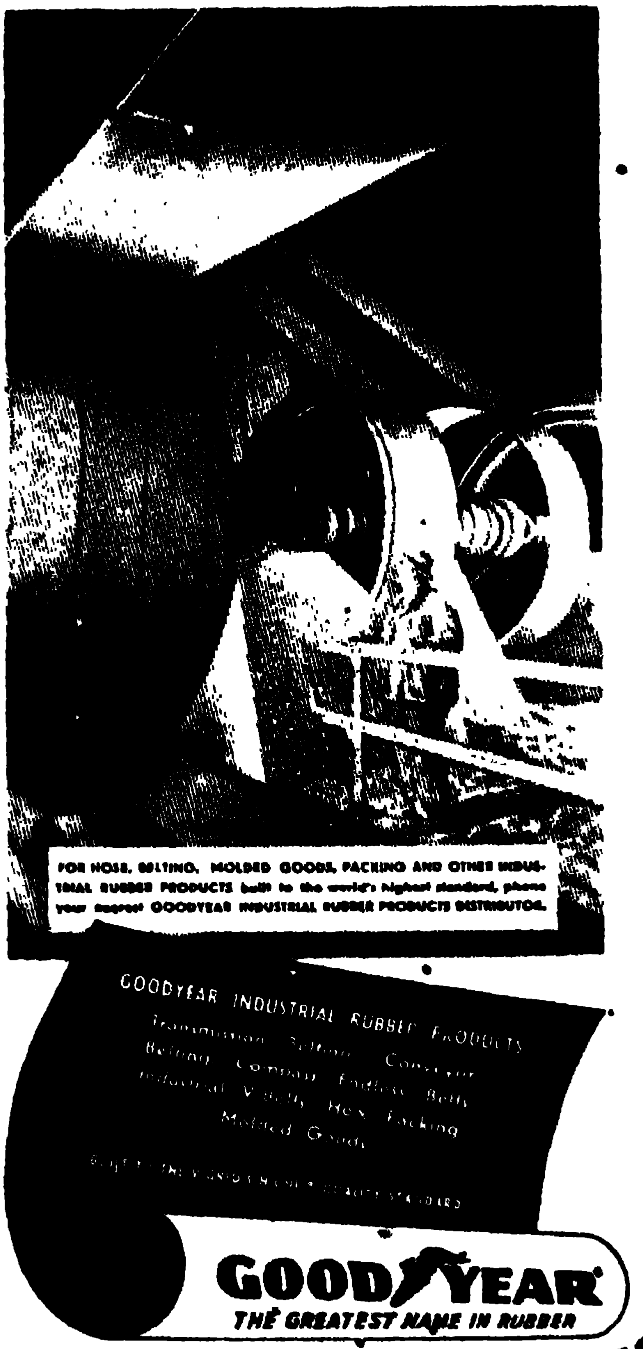
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must come from industrialists and consumers; it should be born of the strains and stresses of the practical difficulties and disadvantages experienced by both these classes in the absence of co-operation between producers. There is certainly no need to wait for Government to take the first step.

Before concluding, we should like to make two suggestions. First, that each Chamber of Commerce appoint a Committee to study the general question with particular reference to the trades in its own area. Second, that our readers form discussion groups within their own business to examine the proposal in respect of their own particular trade.

ADVENTURES OF SAMMY HARE

They looked to left and then to right,
To see no motors were in sight,
"It's safe," said Sammy Hare.
"Let's run! —
"I want to go and buy a bun!" (*To be continued.*)

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ARE WE PROGRESSING?

IT is an irrevocable law of nature that no individual can remain static. He must advance, or he must lose ground. We do not say this in any narrow materialistic sense. Nor is this universal law limited only to individuals: it applies equally to the community as a whole—we make progress, or we fall back: we cannot remain stationary.

Progress implies careful thought, sound planning, and effective action. Mere activity, however energetic it may be, does not necessarily mean progress; for sound and fury are often misleading. In other words, we must spend some time measuring the worth of our activities in terms of the progress of the community. The questions which follow have been formulated to provide a yardstick for measuring the progress of the community.

What has the community done, and what is it doing, with its natural resources—land, minerals, and water? What is our attitude, and what are our methods, in regard to the conservation of our natural resources? This question concerns, not only the community as a whole, but the individuals who comprise the community. Are our individual homes, gardens, the streets adjoining our homes, and our places of work clean and orderly?

What do we do with our spare time? Is it spent profitably in the development of our personal and impersonal assets, or is it squandered aimlessly?

What degree of support do we lend to the governmental and municipal authorities in bettering the civic amenities of the community? Do we support these authorities spontaneously, or do we try to evade our responsibilities in this regard?

Since every community is regularly visited by fires, and other natural disasters, what organisations have we set up to deal with these emergencies? Are the precautions and services provided in this connection kept in efficient working condition?

What is the extent of borrowing in the community? Has litigation increased or decreased since last year, or since the last previous survey? How do present statistics compare with previous ones in the matter of health, crime, sickness, drunkenness, and gambling in the community?

Is unemployment on the increase or decrease? What is the extent of absenteeism in business and industry? What steps are being taken to curb this colossal loss of man hours everyday? Has there been any improvement in employer-employee relations in the community, or is industrial activity periodically paralysed by strikes and lock-outs?

Has the standard of living improved or declined? In order to answer this question satisfactorily, it will not do merely to consider the average income of the working class. Has production increased in proportion to the increase in wages in the community's offices and factories?

What measures is the community pursuing in the matter of uplift, youth, service, recreation, spiritual development, and other current affairs both internal and international?

It is certainly not suggested that this questionnaire is by any means complete. But it is hoped that the proposed questions will lead the way to a more thorough and searching analysis of the community's efforts towards its betterment.—A.S.T.

"ELECTRICITY—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

Charles W. Eliot,
(Late President of Harvard University.)

FERRANTI

a name that has been associated with the triumphs of electricity during the past sixty years.

JOB EVALUATION

A LETTER recently appeared in the London *Times* on the subject of Job Evaluation in industry. Since wage policies are being reviewed all over the world at present, and since job evaluation appears to be the only scientific basis of wage fixation, we reproduce below extracts from the letter just referred to.

"Certain of our more modern industries have applied the technique known in labour management circles as "point rating" in order to determine the proper relationship in terms of wage rates between the various jobs in a particular industry, *e.g.*, moulder, fitter.

Point rating aims, first, at arriving at an equitable rate for each job, and establishes the proper relation of one job to another; this is done by making the closest possible survey of all the factors concerned according to a formula devised to be applicable with minor adjustments to most types of industry. Secondly, it aims at arriving at the proper wage for the individual employed on the job. The nomenclature used for the first is "job rating," and for the second "merit rating."

The analysis is split up into four main sections: (1) Skill, training, and experience; (2) responsibility and mental requirements; (3) physical requirements; (4) hazard. Each of these sections is then subdivided into a number of "factors" for which points are awarded. Thus under "hazard" we find the degree of monotony, the extent to which work is abnormally heavy, disagreeableness—*e.g.*, fumes, dust, wet, heat, cold, etc.

The first step towards a national wage policy would appear to be for each industry to set its own house in order by adopting point rating, so determining the proper relationship between the respective jobs in that particular industry. The second step would be to apply point rating to industry as a whole in order to determine the priority from a national point of view of the various major industries and assess their proper place in the national wage scale.

All our industries which have to face international competition are frequently compelled to pay wage rates lower than those in the sheltered industries. New entrants will not join these "Cinderella" industries when they can obtain better wages and working conditions elsewhere. By point rating, these basic industries which are necessary for our economic survival, could be stepped up to their rightful place, and so attract the new entrants which they so urgently require.

Those industries which are at present paying wage rates higher than those which they would be entitled to pay under the plan would allow their present workers to retain their wage rates as a personal allowance, but new entrants would have to accept the lower rate.

Such a plan would not only attract young men and women into those industries where their work would be of the greatest benefit to the nation, but it would also ensure that a uniform advance of wages could be made in all industries together when national production had reached a stage to justify such an advance."

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TRIPARTITE WORKING PARTIES—I

CAN THEY PROMOTE INDUSTRIAL EFFICIENCY?

By JAMES F. WHITEFORD.

The institution of Working Parties to carry out surveys of different industries is a recent development in Britain. But the reports of these Parties will necessarily take time to prepare ; nor, due to the scarcity of plant and machinery, will it be possible to implement their recommendations forthwith. Meanwhile, the country's industrial problems grow more urgent and complex everyday. Mr. James F. Whiteford discusses this vital issue in the article which we have pleasure in reproducing below with the permission of the author and THE WOOL RECORD AND TEXTILE WORLD.—Editor.

The only way to strengthen an industry is to strengthen each of the operating units of that industry. . . . Efficiency can be described as doing in the best way whatever is to be done, and not doing at all whatever is not necessary.

I have been reviewing the recent report made to Parliament by Sir Stafford Cripps, President of the Board of Trade, in respect of tripartite working parties to be appointed for " inquiring into the efficiency of our industries." More specifically, a " working party " consisting of twelve members is to be established for each industry " to report as to the steps which should be taken in the national interest to strengthen the industry and render it more stable and more capable of meeting competition in the home and foreign markets."

At such a critical period in the history of the country and its industries, it is desirable to give careful consideration to all proposals, of whatever character, which have ultimate improvement as their objective. It is generally recognised that the exports of British industries have to be increased substantially over the pre-war figures. This means that many foreign markets must be secured and kept for the objective to be realised. But it must also be recognised that quality and price are the controlling factors in respect of sales in export markets against keen competition.

In this report, Sir Stafford has made three important observations : –

1. For the next two years, or until the existing shortage of commodities has been removed, a seller's market will exist and price will not be a factor.
2. When stocks are no longer depleted, very keen competition will develop.
3. During the interval, our industries must be made more competitive in the markets of the world.

Few, if any, will disagree with the observations. There may, however, be considerable divergence of opinion in respect of the ways and means for achieving the objective as stated in the third paragraph. Sir Stafford outlines no precise methods of procedure leaving it for each " party " to develop the particular line of approach to the problem. As he states, " the terms of reference are wide enough to cover any question of industrial efficiency."

In any discussion, confusion of terms needs to be avoided. Actually, " efficiency " is a record of performance and can be " low " or " high " according to results. But its use in the present discussion

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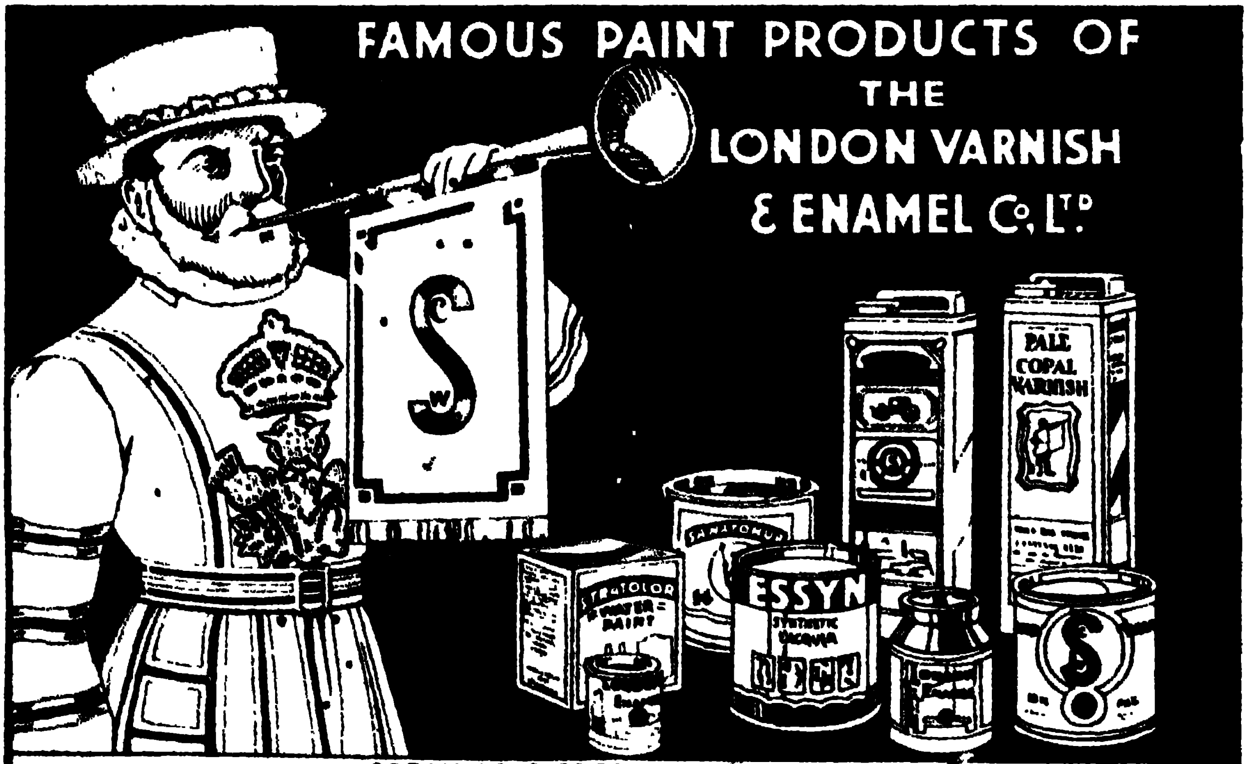

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implies as meaning a high standard of accomplishment. Now an "industry" is rather difficult to define with any degree of exactitude. For example, just what is the "woollen industry?"

As I see it, the woollen industry is a combination of several independent, but related industries—i.e., wool buying, wool combing, woollen and worsted spinning, woollen and worsted weaving, dyeing and finishing, and merchanting. Then there are allied activities dealing with shoddy, etc. A further complication arises from the fact that the woollen industry is to be found in three widely separated geographical areas West Riding, West of England, and the Border Country (Scotland).

The operation of a "working party" having for its object the improvement in the performance efficiency of an industry as a whole is a new development. To my knowledge, it is the first time that an effort has been made along such lines.

It is a notable experiment, and the results will be awaited with interest. Sir Stafford has fixed two years as the approximate limit for constructive adjustments to become operative. From this it is apparent that the time factor is important. For that reason, it may serve a useful purpose to make an effort to visualise the application of the plan with the woollen industry as an example.

An industry, ordinarily, covers the entire series of operations through which the raw material passes until the finished products reach the consumer. Examination of any industry will include a survey of the following items: General organisation; machinery and equipment; technical processes; labour relations; statistics.

Other items may be included in certain industries, but these can be taken as representative.

The woollen industry is organised on horizontal lines. Self-contained sections concentrate upon some one of the manufacturing operations. Worsted spinners produce yarns for various weaving firms but have no direct interest in the fabrics woven. Dyeing and finishing sections operate without being associated with combing, spinning, or weaving. Merchants solicit and deliver orders but have no direct connection with any of the manufacturing units.

Organised on vertical lines, the whole of the operations, including merchanting, would be conducted under a unified control for the production and distribution of a certain group of fabrics. An exact balance of capacities between the different sections could be developed and permit of a high efficiency of investment. Better values and prices could be given to customers for the particular fabrics. All this is possible so long as there is no alteration in the character of the products for which the group is organised.

But fashions change and customers demand other fabrics which has the effect of disturbing the balance of capacities however carefully the calculations have been made. After many years of experience, the horizontal plan has been accepted as being the more suitable and economical.

Whether adjustments in the existing plan of the general organisation can now be made to advantage is somewhat problematical. In any event, such adjustments will require a period of years to become operative.

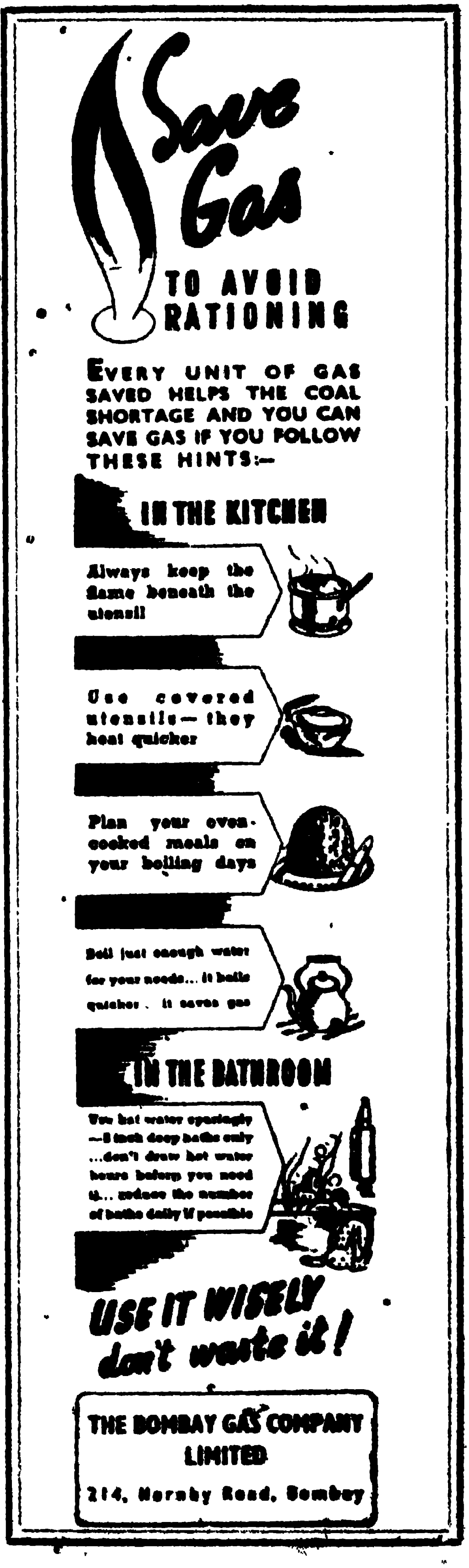
The second item—machinery and equipment—is an involved and complicated problem. No doubt, much of existing machinery can be replaced to advantage. Given greater floor, it may be possible to fit labour-saving attachments to some machines now in use. Wider spacing of machines will enable materials to be handled more economically.

Looms can be equipped to accommodate larger beams and larger bobbins which will result in reduced costs of production. More extensive installation of automatic looms will increase the volume of production per labour-hour. It may be possible for looms to be constructed more in keeping with modern machine tool practice and permit reduction in the cost of servicing. In fact, machines may be designed and built for specific purposes as is the practice in some sections of the engineering industry.

These problems involve technical considerations and must include contact with the builders of textile machinery whose activities are not included as a section of the woollen industry. Re-equipping the whole of the wool textile industry with more modern machinery is a formidable undertaking. New mills and factories can be built capable of accommodating a much larger number of units than are now in operation. In that event, it will be possible to dismantle certain of the existing mills and factories. But none of the alterations is capable of immediate execution. The time factor is important.

Technical processes are specialised problems. They require to be examined by technical experts. Existing research facilities and means for the general diffusion of technical data are extensive. Reviewing these problems for the entire industry would be difficult, involved, and lengthy.

(To be continued)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INFORMATION SERVICES

The Engineering Index Service

IN the May issue of this magazine, we drew the attention of our readers to the information service provided by the Association of Special Libraries of Great Britain. There is a similar service in America; the Engineering Index Service, which brings to the attention of technologists the day-to-day progress in any required branch of technology. This unique service, with the experience of half a century behind it, aims at providing a comprehensive guide to current technical periodical literature, *no matter where it is published*—whether in the transactions of learned societies, periodicals, government bulletins, research reports or anywhere else.

The important articles in this current technical literature are classified, indexed, and annotated on standard library-size filing cards which are mailed to subscribers every week, thereby providing a weekly record of the latest information on any engineering subject.

Each card issued contains complete information as to the source of the article indexed, and an annotation or brief description of the article classified under a standard subject heading.

The annotation is a concise description of the article, but contains sufficient information to enable the subscriber to select articles of particular interest to himself.

By using the information on the cards, the indexed article may be obtained on loan from the local library or bought directly from the publishers. The Service also maintains a library from which photoprints or complete translations of the text of the article may be procured at cost. At this library, all articles are indexed and filed permanently.

The Engineering Index Service has 282 divisions, covering an extensive and varied range of subjects of engineering and technical interest. Subscriptions may be entered for the part or parts in which one is interested. The rates of subscription vary, of course, in the case of different subjects, depending upon the complexity of the problems and the frequency of research-progress. The rates, however, are reasonable and vary from 7 to 50 dollars per annum.

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The advantages of subscribing to such a Service are obvious. In the post-war period, our industrialists will have many new projects to initiate and many existing ones to expand. The war has revolutionized the old ways and methods; and the progressive industrialist will have to make himself familiar with the many new advances made during this war. To keep himself abreast of the latest developments will be a condition of survival in the highly competitive world of tomorrow. Any system or service which can acquaint him with the progress taking place in his own field of endeavour will, we feel sure, be most welcome to him. The Engineering Index Service is recommended here as being both comprehensive and thoroughly dependable.

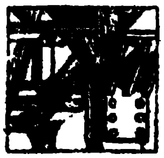
An artist's impression of these future homes

2,000,000 HOUSES IN TEN YEARS.

PLANNED FOR PERSONS WITH LOW INCOMES.

(From Our Correspondent)

Government proposes constructing 2,000,000 houses within ten years for low income groups, through municipal and local bodies throughout India. The plan provides two rooms with a kitchen, a bathroom and a small court-yard with water laid-on.



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In the vast re-housing schemes of the future, Tata Steel will be extensively used.

-TATA STEEL-

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MEASURING THE WORTH OF A JOB

ON another page of this issue, we reproduce a letter from the London *Times* on the subject of job evaluation. The present article is meant to serve as an illustration of the principles outlined in that letter.

Wages play an important part in sustaining employee morale and loyalty. It is clear, therefore, that wage policies should be carefully thought out. Generally speaking, however, the law of supply and demand is allowed to dominate the issue. This is obviously unsatisfactory. Again, many employers fix the wages in their firms with an exaggerated regard for the *qualifications* of their employees, irrespective of the actual *worth of the jobs* done by these employees. This practice is also unsatisfactory.

The only scientific basis of wage fixation is job measurement or job evaluation. This method serves to measure the worth of a job, both in terms of wages to be paid for its performance and in relation to other jobs.

The worth of a job is commonly measured in two ways. The first method is to take each job in a firm and to "rate" it according to its requirements under appropriate headings, such as: mental, skill, physical, responsibility, and working conditions. By way of illustration, take the case of a brick-layer, a common heavy labourer, and a tool-maker. An assessment of the worth of their respective jobs would be worked out as follows :

	Mental	Skill	Physical	Responsibility	Working Conditions	Total
Brick-layer	17	22		15	10	91
Common Heavy Labourer.	3	3	37	3	9	55
Tool-maker	27	37	16	22	5	107

The wages to be paid to these three classes of workmen would then be in proportion to the total points given to their respective jobs.

To discuss this illustration further the probability is that the tool-maker would be placed the highest and an ordinary labourer the lowest under the heading "mental." In the matter of skill, the tool-maker would still lead easily over the common heavy labourer. But under the heading "physical," the labourer would rank considerably higher than the tool-maker. The latter, on the other hand, would be rated high for responsibility ; the labourer low. As far as working conditions are concerned, the tool maker, working in a modern workshop, would be rated low, whereas the ordinary labourer, working in the open sun and rain, would be rated high.

The measurement of the various factors involved in a job calls for a great deal of skill and experience. But measuring a job in this manner is the only scientific method of fixing wages.

Another and perhaps better method of "job rating" (as this technique is frequently called) is to list *all* the requirements of the work done in a factory. Prominent among such requirements would be : Learning period ; mechanical ability; previous experience ; complexity of process ; dexterity ; responsibility for equipment and material ; accuracy ; effect upon subsequent operation ; team-work ; alertness to details ; attention to orders and

(Continued on page 323)

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EDUCATION AND INDUSTRY

TECHNICAL education is at a premium today, and technical institutions are being set up all over the country to meet the ever-growing demand for admission to courses of a vocational character. These are encouraging signs, for training facilities are essential to sound industrial development. But it is a matter of prime importance that the facilities provided should be thoroughly practical and up-to-date. This is where Industry comes in.

Industrialists, unfortunately, have hitherto taken little interest in Education. They are content to absorb the products of our educational institutions, and to make the most of the material available. This method, however, is inefficient and costly. It would be far more profitable for Industry to take a keener interest in the work of our schools, colleges, and other educational bodies. By keeping in close touch with these institutions and by helping them keep abreast of changing conditions, Industry would secure for itself a reservoir of properly trained personnel, equipped with the latest "know-how" of business and industrial principles. This is sufficient reason for Industry to involve itself in the matter of Education.

What part could Industry play in bringing present-day Education more in line with the requirements of modern industrial activity?

First, it could supply educational institutions with job specifications of what is required in the various trades and professions—technical, commercial, and managerial. Industry knows precisely what qualities are desirable in workmen, foremen, in the research laboratory, and in the field of management work. This knowledge would be an invaluable assistance to educational bodies in periodically revising their courses of instruction to suit changing industrial needs.

Second, Industry could supply training institutions with apparatus, instruments, machines, and other equipment essential for laboratory and practical work.

Third, it could furnish practical examples, problems, and illustrations to enable teaching to be related to modern practice.

Fourth, it could supply training centres with teachers and demonstrators rich in practical experience.

Fifth, it could assist in keeping the training syllabi up-to-date by the introduction of the latest developments in business and industry.

Sixth, it could supply trained administrators to serve on the Boards of Management of educational Bodies.

Lastly, it could check the results of Education by correlating the knowledge acquired in training institutions with subsequent job performance.

Apart from providing specialists as teachers at training centres, Industry could also give existing teachers refresher courses and opportunities for research in commercial and industrial firms. This would ensure that teaching is related to the best modern practice, that it is concrete, and that the approach is always practical rather than theoretical or abstract.

In order to achieve these objects, Industry should first of all prepare,

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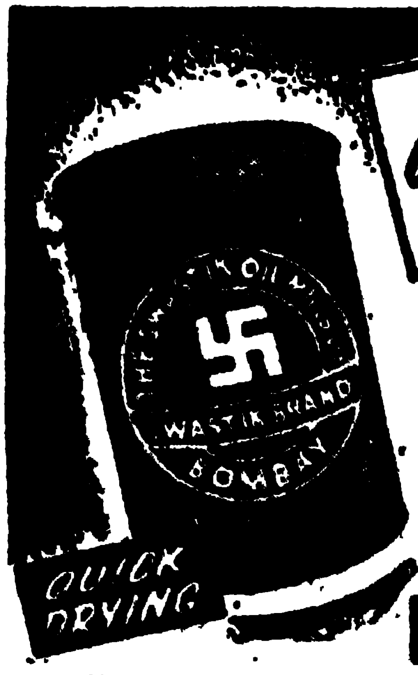

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for the guidance of the educational authorities, a list of the various fields of employment open in Commerce and Industry. The next step would be to provide educationalists with comprehensive specifications of the specific qualities and specialised training required for success in these various fields. The third step would be to prepare, in the light of these specifications, detailed syllabi for each trade and profession, the final syllabus in each case being approved by a Board of Technical Studies representing both Education *and* Industry.

But it will not do merely to lay down the syllabi. It is vital that Industry keep in close contact with the work of educational institutions to ensure that the matter and manner of instruction is reviewed periodically to meet changing conditions in a changing business world.

* * *

MEASURING THE WORTH OF A JOB

(Continued from page 319)

drawings; monotony of work; working position; abnormally heavy weight-lifting; disagreeableness of work; liability to disease; liability to accidents; and liability to internal injuries.

The next step is to rate all the different trades in the factory in accordance with the requirements of each trade. The total points given thus to a job represent the worth of that job and become the basis for fixing the wages on that job.

Conducted in a scientific manner, job evaluation places wage policies on a sound foundation. Each employee is then paid strictly in accordance with the work he does, and a just balance is maintained between the wages paid on the various jobs in the organisation.

Dermatitis

More than one-half of all industrial diseases are skin irritations (Dermatitis). The causes of the trouble are many but most of them only affect a few sensitive people. One important source to know and guard against is the fine metal and abrasive particles rubbed into the pores of the skin when wiping cutting oils and liquids containing these irritants from the hands.

These minute particles scratch, bury in the skin and fester. A microscope reveals the inflammation to be countless tiny sores or boils which must be healed before infection sets in. When these oils and liquids are kept clean by filtration they are of little harm.

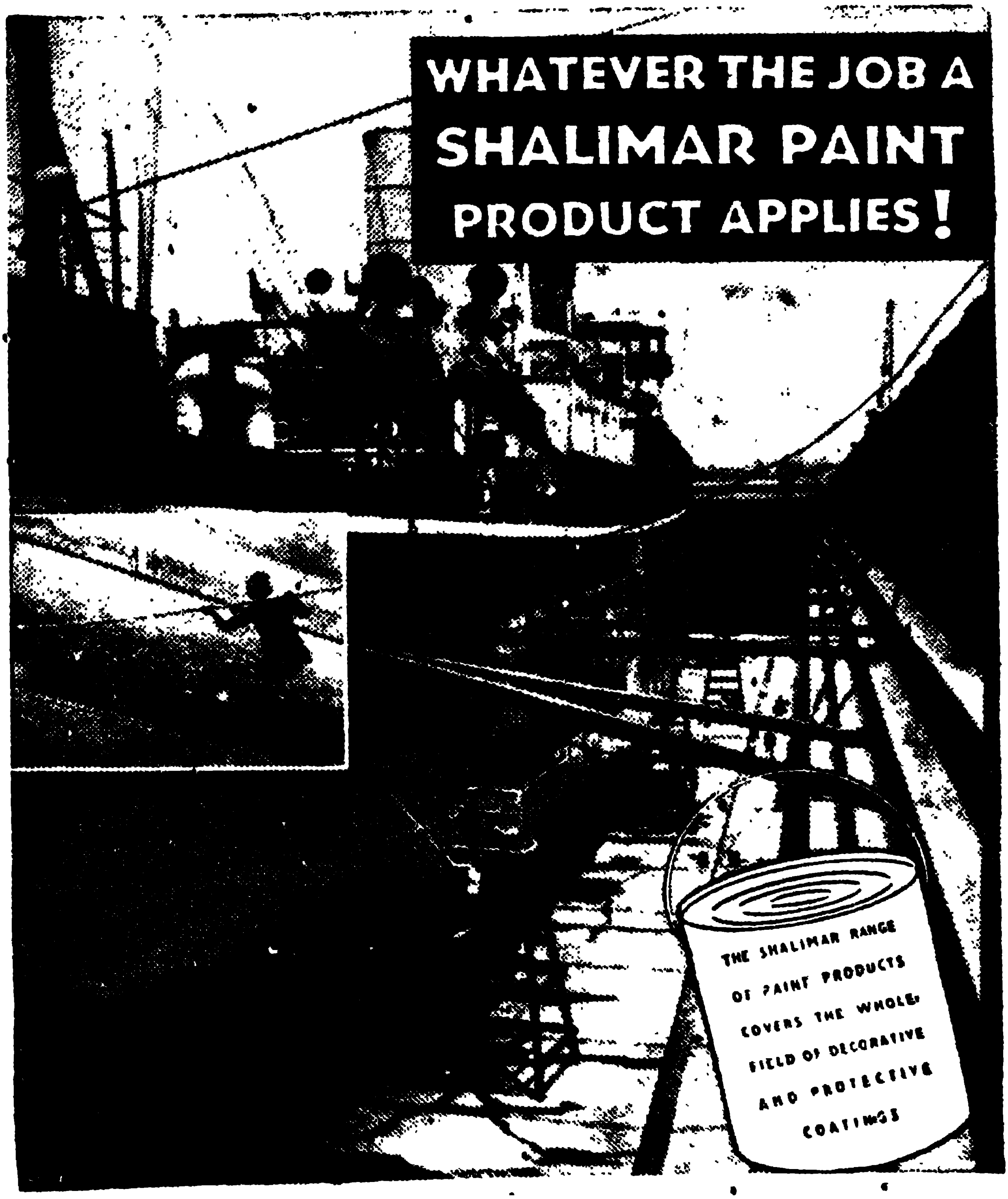
Other forms of Dermatitis are caused by solvents or strong chemicals which eat or irritate the skin tissues such as: some petroleum products, paint, alkali, strong soap, cement, poisonous plants; also extreme air conditions such as heat, cold, dry, wet and high pressures.

Frequent washing with warm water and soap followed by a prescribed hand lotion, prevents most forms of Dermatitis. When this fails, see your Doctor.

Limerick Competition

The Editor has awarded a prize of Rs. 5 for July, to Mr. D. E. Pereira, 42, Ranwar, Bandra, who submitted the following *missing line* :—

There once was a motorist gay.
He was—but he isn't today!
He got by for a while,
But he drove his last mile—
At the wheel, dreaming away.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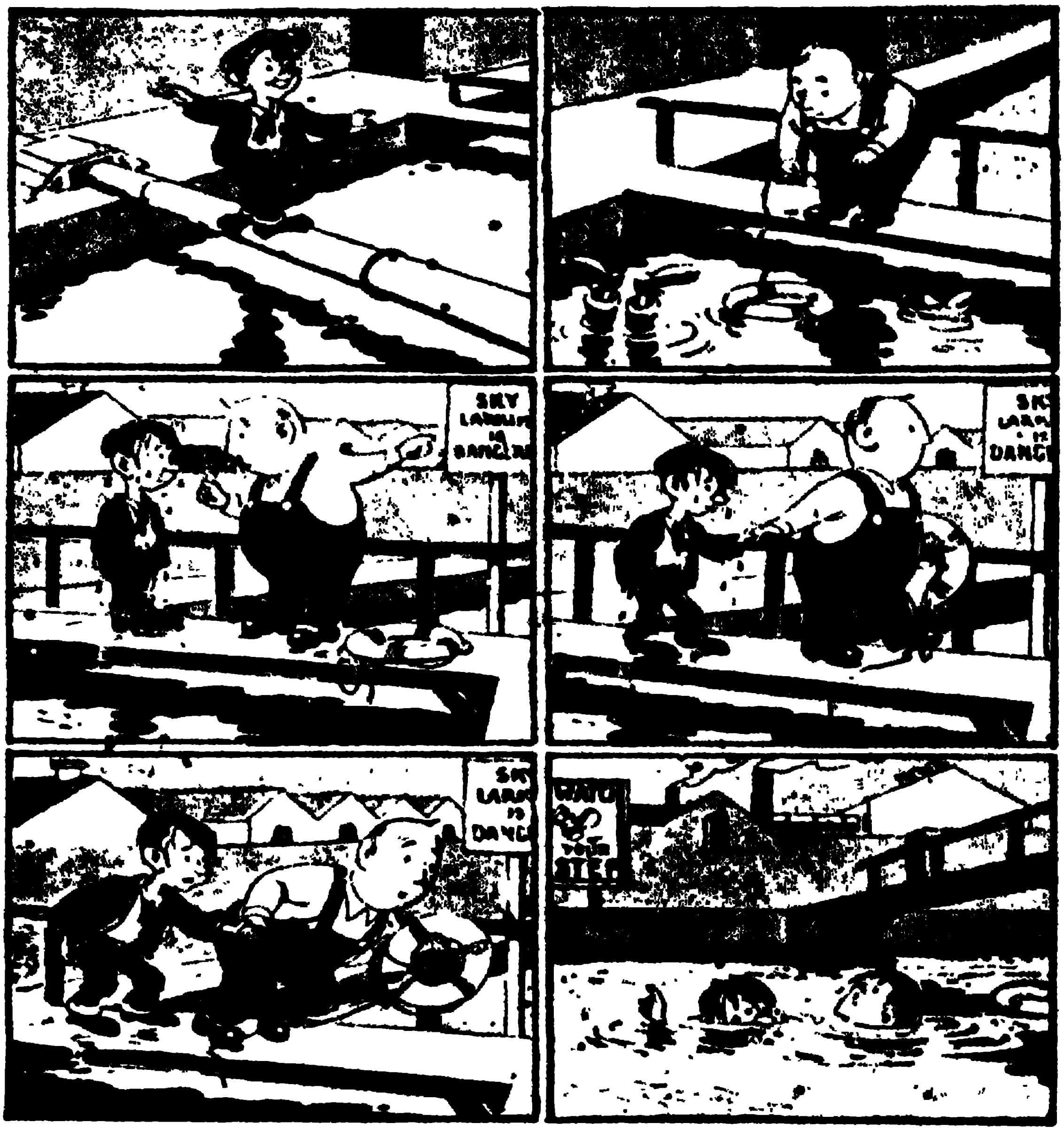

This story tells of accidents
That happened to poor Watty,
Who lacked his share of common sense;
The things he did were dotty.

He'd shove a piled-up truck, the dunce,
Not heeding where 'twas going.
He ran into the foreman once,
Whose words were apt and glowing.

His end came as a sudden shock,
One can't help feeling sorry.
He tumbled off the loading dock
Beneath a five ton lorry.

IF LOADS HAVE GOT TO BE SO HIGH 'PULL IT, DON'T PUSH' MUST BE THE CRY.

Courtesy R.S.P.A.

These cartoons in a coloured booklet form are available at the Safety Bookshop, Electric House, Fort, Bombay, at as. 4 each.

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FOREST CONSERVATION AND EXPANSION

IN India, as elsewhere, forests are Nature's gift to Man and their indiscriminate and unscrupulous exploitation have seriously affected their protective rôle. Depleted forests cause soil movement and interference with the natural cover which forests afford to the land always leads to disaster.

Forests help agriculture and are necessary for maintaining climatic and physical conditions as well as for supplying timber, fuel, grass and other forest products.

Soil erosion has assumed dangerous proportions in India and the necessity of forest conservation and large schemes of afforestation are thus quite apparent. On the top of this the distribution of forests in India is not even.

Planned afforestation provides a means of reclaiming for agricultural purposes lands threatened by floods and checking the spread of desert conditions. On account of the uneven distribution of forests the wants of the vast population of village consumers for fuel are left unmet with the result that villagers are forced to burn cowdung. Thus a very valuable fertilizer is lost. It is estimated that about 250 million tons of cowdung, enough to fertilize 72 million acres or roughly 30% of the total acreage of agricultural land in India, is thus burnt and lost. It is easy to see to what extent food production in India is being jeopardized by the destruction of valuable manure.

Besides agriculture, forests provide valuable raw materials for a variety of industries such as housebuilding, matches, pulp and paper.

India is definitely not well provided with forests because the total forest area is well under 20% as against 26% in European countries and what is worse, the distribution is bad.

The need for large scale afforestation for preventing soil erosion, floods, dessication and for providing fuel and raw materials for industry is very great. The land required for afforestation is available—some 288,000 sq. miles and the requirements will be met if one-third of the area now uncultivated is utilized for establishing forests.

The execution of any large-scale plan of afforestation requires a large number of trained men, both of the officer and ranger class. The need for forest education, for research men and research facilities is very great. Research into forest soils, tree physiology, forest ecology, forest mycology and entomology is necessary if good results are to be achieved. All these involve expenditure of huge sums of money, necessitating long range planning and stability of budget provision. These requirements have to be met adequately if forest developing is to be real and lasting. Condensed from the Journal of Scientific & Industrial Research.

* * *

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Post War Reconstruction??

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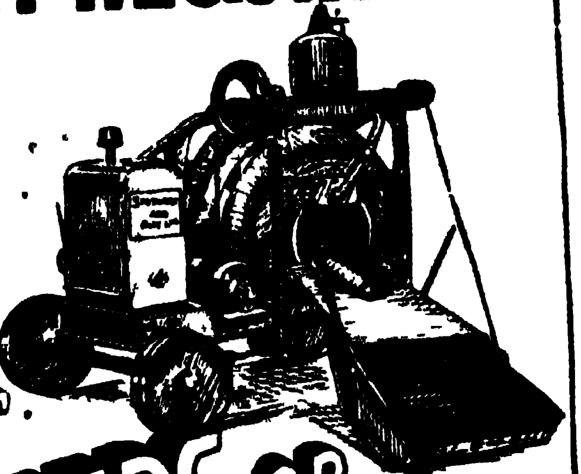

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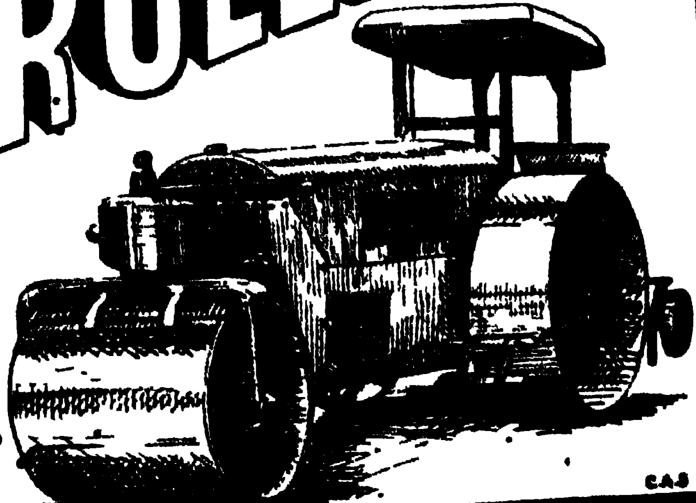

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HOW IS WORK PROCEEDING

PRINCIPLES OF THE GANTT CHART

In order to show whether work is proceeding according to plan Henry L. Gantt (1918) developed a very useful bar chart.

The principles of this chart are : –

A piece of paper about 11″ × 17″ is ruled up into vertical columns for each day with feint horizontal lines to enable the following information to be recorded on.

(A) The amount of work planned for the day is represented by a light black line drawn horizontally in the time space.

(B) Above this, the amount of work actually done is represented by a thick black line extending from the left hand boundary of the time space to a point representing the percentage of the planned production.

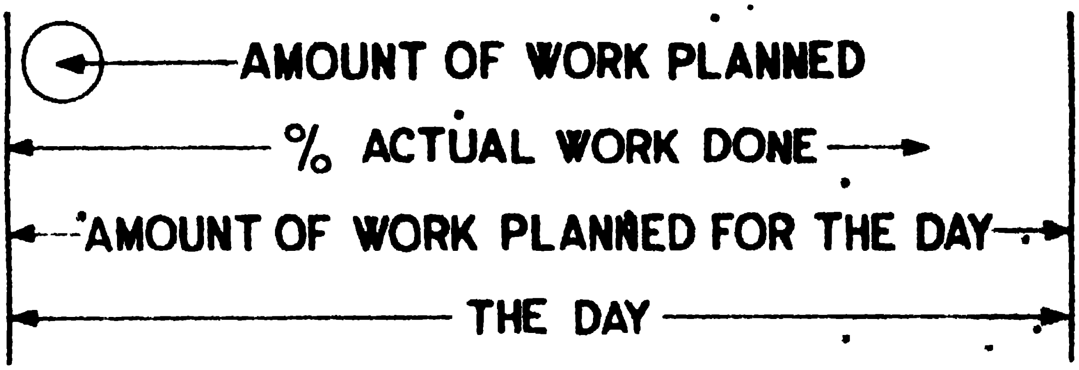


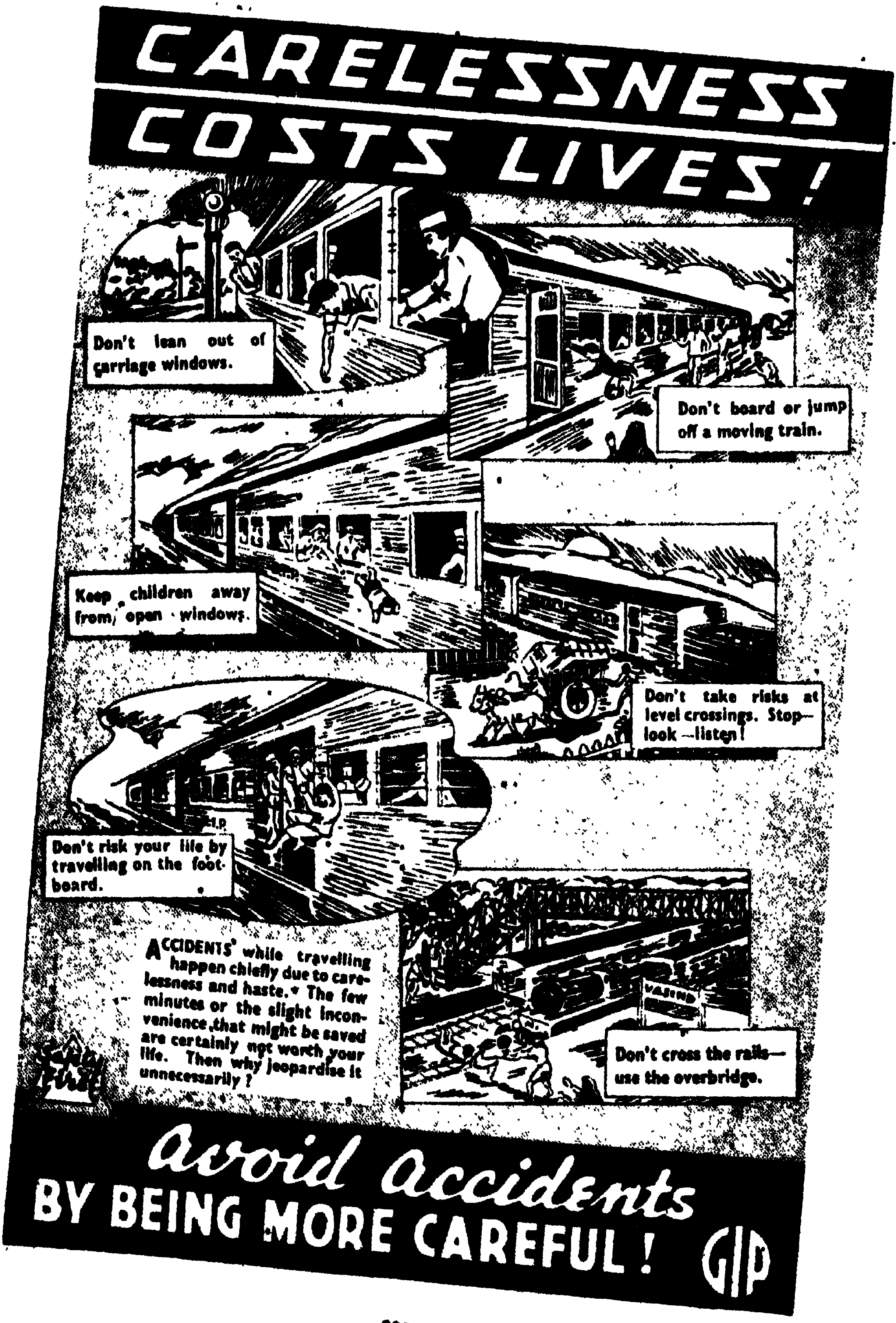
FIG. 1. PRINCIPLE OF GANTT CHART

Let us suppose that a week's work is planned and executed as is shown in columns 1, 2 and 3 of the following schedule :

Day.	Units. Planned	Units. Daily Production.	Units. Cumulative Production.
Monday	100	75	75
Tuesday	100	90	165
Wednesday ..	100	100	265
Thursday ..	100	95	360
Friday	100	125	485
Saturday	50	50	535
Total ..	550	535	

On Monday 100 units were planned, whilst the executed production was 75 or 75 per cent. so that the line representing the actual work done is drawn to occupy ¾ the width corresponding to a day.

On Friday, the production was 125 or 125 per cent. of the estimated production, so that the line representing it is drawn 1¼ times the day's width. This is drawn in two parts of 100 per cent. and 25 per cent.



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Don't lean out of carriage windows.

Don't board or jump off a moving train.

Keep children away from open windows.

Don't take risks at level crossings. Stop—look—listen!

Don't risk your life by travelling on the foot-board.

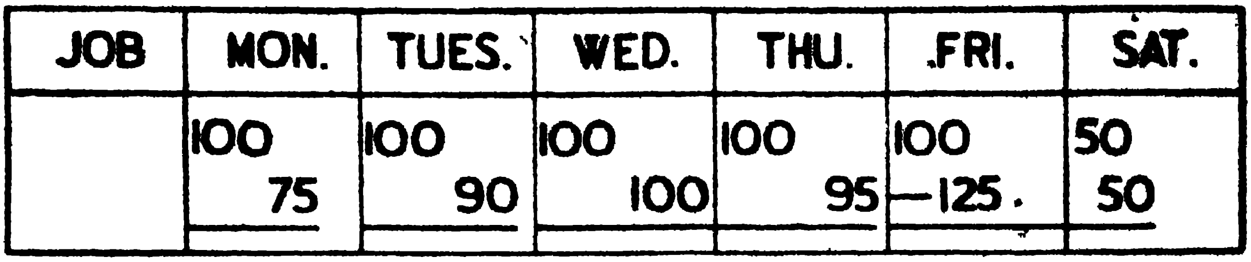
ACCIDENTS while travelling happen chiefly due to carelessness and haste. The few minutes or the slight inconvenience that might be saved are certainly not worth your life. Then why jeopardise it unnecessarily?

Don't cross the rails—use the overbridge.

avoid accidents BY BEING MORE CAREFUL!

GIP

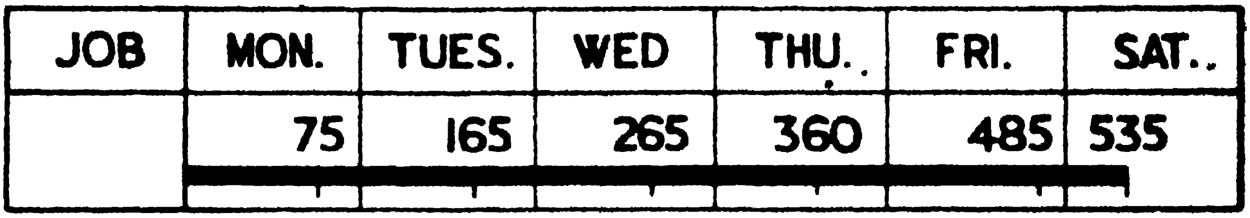
This information would be presented on a Gantt Chart as shown in figure 2.



JOB	MON.	TUES.	WED.	THU.	FRI.	SAT.
	100 75	100 90	100 100	100 95	100 125	50 50

FIG. 2

In order to show the cumulative production to date, another line is necessary. This is represented by a thick black line and is drawn below the daily output line. This is shown in figure 3.



JOB	MON.	TUES.	WED	THU.	FRI.	SAT.
	75	165	265	360	485	535

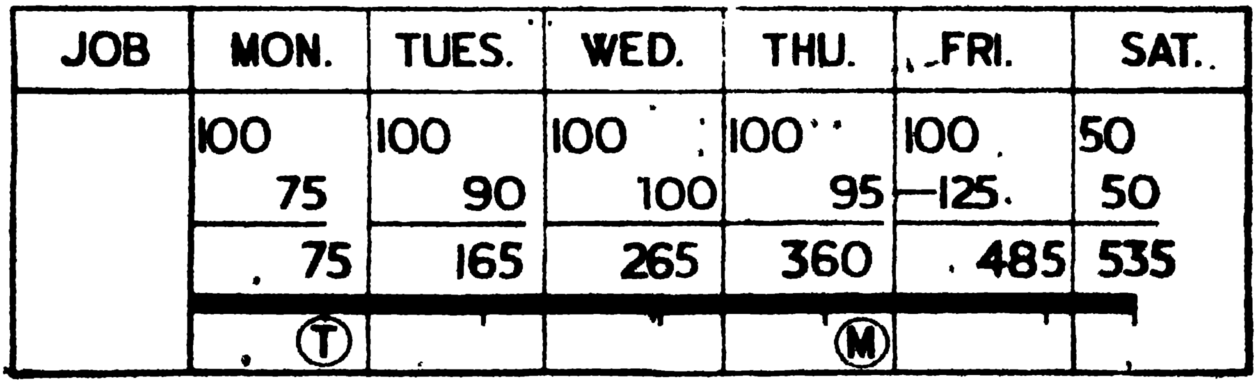
FIG. 3

Notice that (a) this line is not drawn to scale and (b) the cumulative actual output is written on the right-hand side of the day column, *e.g.*, the production up to the end of Saturday was 535 units.

As it is extremely important to bring to the notice of the Executive the causes and reasons for the non-fulfilment of the production, these are indicated by symbols written in the chart. The following are ordinarily used:

D waiting for Drawings or Instructions. L waiting for Labour. M waiting for Material. T waiting for Fixtures, jigs, tools, etc.

The information as set up above is now put into the form of a Gantt Chart; this is show figure 4, which clearly shows the daily production, as against the planned production, the cu lative production and the reasons for the non fulfilment of the production.



JOB	MON.	TUES.	WED.	THU.	FRI.	SAT.
	100 75	100 90	100 100	100 95	100 125	50 50
	75	165	265	360	485	535
	Ⓣ			Ⓜ		

FIG. 4

In addition to charting progress—The Gantt Chart is also used-

(*a*) to show whether or not a man does a day's work and if not, the reason why.—This is called the Man Record Chart,

(*b*) to show whether or not machines or equipment are being used and if not, the reason for idleness.—This is called the Machine Record Chart;

(*c*) to show the work to be done.— The Load Chart,

(*d*) to plan to get the orders in hand done when they are wanted and to make the best possible use of the available man and machines. This is called the Gantt Layout Chart.

Readers desiring more information on the Gantt Chart should consult Wallace Clarke's book "The Gantt Chart." This is the best book on the subject. Many other books dealing with production describe this chart. Knowing these principles, the reader will find it quite easy to work out the idea for himself.

Institute of Management

The Committee appointed by the Federation of British Industries, has reported to Government. The Treasury is to make a grant to enable the new British Institute of Management to get a start. It will be a professional body which will provide a centre for the study of management and which will carry out research and disseminate information on the subject, and which will concern itself with training.

It will not be the only body of the kind, there are others already with similar interests and it will doubtless have to work in close co-operation with them. It is, however, primarily charged with raising the standard of management.

It is not that the standard is low so much as that it varies. There are examples of the best, but the mediocre is very common. The technical standard is generally higher, which probably accounts for the premium put on administrative ability. It is high time that management as a subject was put in better shape and perspective.

Causes of Business Failure

An analysis of the predominant causes of Business Failure is listed by James F. Whitewood in the *Science of Business Efficiency*, a Herbert Casson publication :

1. Insufficient Planning ;
2. Inaccurate Standards ;
3. Uneconomical Design ;
4. Inadequate Executive Control ;
5. Fashion Changes ;
6. Unfair Practices.

Production Efficiency Service

Sir Stafford Cripps, President of the British Board of Trade, said recently in the House of Commons : " After consultation with both sides of industry, I have decided to establish within the Board of Trade an advisory service designed to assist industry to increase productive efficiency.

" I have reason to believe that there is a considerable demand from progressive firms, particularly perhaps some of the smaller firms, for a service of this nature.

" The service, which will be known as the Board of Trade Production Efficiency Service, will operate in response to requests from firms to whom no charge will be made at present.

" There will of course be appropriate consultation with the workers' representatives."

* * *

Small Tools and Rust

Small tools may be stored away for a considerable time without rusting if they are treated in any one of the undermentioned ways :—

(1) By dipping or brushing with thick lubricationg oil, wrapped in greasy paper, and then stored away.

(2) By mixing a heavy quality grease with oil, smearing the tool, and store away. No paper needed.

(3) Brush the tools with a good quality Shellac ; leave to dry properly, and store away. No paper wrapping necessary.

On no account must Files be treated with Shellac, as the cutting grooves will become clogged and cause considerable trouble to the user. Files should be lightly brushed over with a thin lubricating oil.

It is advisable to store away all small metal cutting tools in closed cupboards.

Objects and Functions of Trade Associations

WE made editorial comment in this issue on the advantages of Trade Associations, because we feel that they are of the greatest help in advancing the welfare of Industry. This article explains some of the more important objects and functions of Trade Associations.

These objects and functions can be grouped broadly into four categories: Commerce, External Relations, Labour Problems and Technical Problems. These 4 major groups and the further questions which they raise have been listed below in alphabetical order and not necessarily in the order of their importance.

Arbitration: To act as arbitrator between members on certain specified matters, such as price, disputes, etc.

Costing: To adopt a uniform system of cost accounting so that all members of the Trade will account on the correct principles and on the same system. (See Editorial, *Efficiency News*, November 1944.)

Consumers' Service: To give service to consumers to enable them to secure the best value from the use of the product. To study the behaviour of products in use and storage, and generally speaking to adopt a constructive attitude towards consumers' complaints.

Education: To develop the idea of training within industry apprentices and supervisors, through courses in technical colleges and schools.

Employees: To adopt an up-to-date uniform method of safe-guarding life and limb of the employees.

Government Liaison: To act as liaison between Government and Trade. This is a most important function. The Federation of British Industries in their recent survey states:

> "Satisfactory co-operation with the Government will be impossible unless industry is adequately organised through the medium of Trade Associations. Unless industry takes steps, where it has not already done so, to provide suitable organisations; the Government will find itself compelled by pressure of circumstances to devise methods of its own."

Information: To collect commercial, labour, and technical information pertaining to the Trade. To record this and make it available in the best form to members.

Legislation: To present an united front to contemplated legislation.

Library: To maintain a library of all English and foreign books, pamphlets, papers, etc., relating to the Trade. To have these indexed and summarised by a trained staff, and to issue these to members through a bulletin or magazine.

Packages: To formulate the best means of presenting the product to the user.

Propaganda: To centralise publicity through advertising, catalogues, exhibitions, films lectures, and technical papers. Some progress has already been made in this field by the formation of Development Associations whose primary object is to conduct educational propaganda through exhibitions, films and other vehicles of publicity.

Relations, External: To maintain contact by way of correspondence, personal discussions, and visits to parallel organisations and trades in all countries of the world.

Research: To pool resources and to bring technical problems to the notice of Research Universities, particularly those in whose area the industry is situated. To assist such Universities by grants and, if necessary, to establish a Research Institute for the trade.

Standardization. To standardize and simplify its products in order to eliminate waste, to facilitate production, to simplify tendering, to assist home trade in its efforts to meet foreign competition, and to co-operate with the Standards Institution of the country.

Statistics: To collect statistics covering the whole field of operation of the trade (exports, imports, prices, etc.) and to issue them in a convenient form to members.

Trade Fluctuations: To level out, through co-ordinated effort, violent fluctuations in the trade.

Trade Practices: To formulate and adopt uniform forms of contract, codes of business and ethics, credit bureaux, trade marks, etc.

Trade Promotion: To encourage and stimulate trade, both export and import.

Readers who wish to have more information about this important subject should consult the recognised work *Trade Associations and Industrial Co-ordination* by Tudor Davies.

DIVALI

Greetings

May this Divali be the harbinger of a New Year of peace and goodwill among people and may this New Year usher in an era of happiness and prosperity in the country.

THE TATA OIL MILLS COMPANY LIMITED

Rotary Guide to Careers

IN modern India the avenues of employment are so diverse that the new entrant into any field requires a thorough knowledge of the requirements of the various professions and vocations that are available to enable him to choose the particular vocation that is best suited to him.

In this regard the "Rotary Guide to Careers" just published is an invaluable guide and gives practical advice on the personal and educational qualifications, the opportunities and essential training for the various professions available in India. At the moment, Rotary Guides dealing with Architecture, Accountancy, Banking, and Law are available while others on Engineering, Civil Aviation, Stock Exchange, etc. are under preparation. These pamphlets, priced at annas eight each, can be had from the Safety Bookshop, Electric House, Fort, Bombay.

Emergencies

What emergencies are likely to happen? How have you prepared for these? Peter Drucker in "The Future of Industrial Man" says — "Only by preparing for everything that may happen can we hope to prepare ourselves for the one thing that will happen. Even so, only too often we find that the actual event lies so far outside anything we had considered possible that we are not prepared for it. But at least by having planned for a great many varied alternatives and even conflicting possibilities we shall have learned enough of the technique and of the practical problems involved to master even the unexpected. The first requirement for such an approach is that we understand the principles which must govern our preparations and plans. At the same time we must understand as much as possible of the reality which we shall have to master and to organize according to our principles."

* * *

A Model Plant Inspection

The Remington-Rand, Inc., of Marietta made good constructive use of the leisure time of its foremen and supervisors during the current steel strike.

As it was possible to release everyone from his regular duties, every single foreman and supervisor undertook a joint inspection of the plant.

The group of 30 was sub-divided into six groups of five men each. Each group elected its own secretary, who was instructed not to record a hazard as such unless three of the five group members concurred in that opinion. Each group was furnished with a typed itinerary to follow, each covering the same route at 10-minute intervals.

All departments were inspected by all groups and a report meeting was held in the afternoon for the purpose of hearing the reports from each of the six secretaries. This was attended by all those participating in the inspection.

While it was expected that there would be many duplications, each group reported some things overlooked by all the others. Naturally many hazards were spotted and it is the disposition of the management to concentrate upon their elimination.

* * *

Improvising in Face of Bank Strike

As a result of the strike of Bank Officials in Northern Island, which began on the 12th of July, firms both large and small have had to make provisional arrangements to ensure that cash is on hand each week to meet payment of wages.

It appears, says the Correspondent of the "*Financial Times*" that no case of wage payment has been held up.

Organisations have resorted to many methods to obtain ready cash—borrowing from public utility companies, picture houses, and firms which handle large amounts of cash every day.

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Welfare's Big Part in Efficiency

The importance of Welfare in production efficiency was recently discussed by Mr. F. E. Chappell, Director of Production Efficiency Service, Board of Trade. He said that the human factor must be put right, and reasoned consideration must be given to industrial conditions if the maximum results of human effort in the more technical fields are to meet with the best results.

Good results were being achieved through welfare work, but it was equally true that British industry would have done better if more consideration had been given to the human element in the early days.

"People of this country were anxious to work together if only they could get a basis of real understanding and this would not be found in an atmosphere of mud-slinging.

"If workers and management can get together in a spirit of co-operation based on a desire to understand each other's problems, I am satisfied we shall accomplish something greater than industry in this country has ever accomplished," Mr. Chappell concluded.

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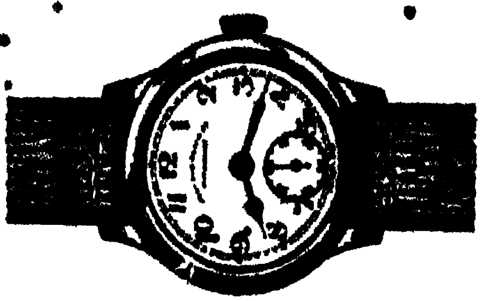
The Time Factor—

in the ARMY



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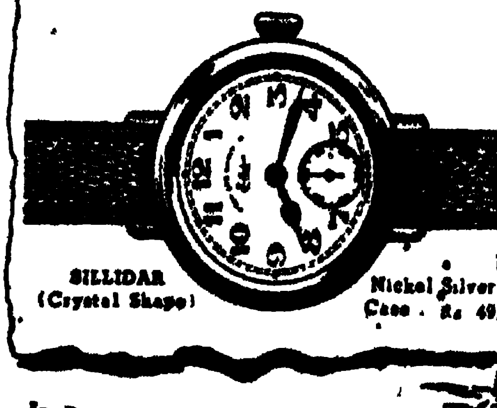

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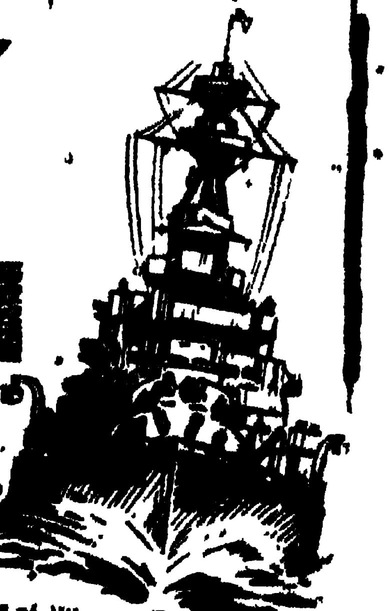

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EFFICIENCY NEWS

Vol. XIII. No. 11 NOVEMBER 1946 Price As. 8

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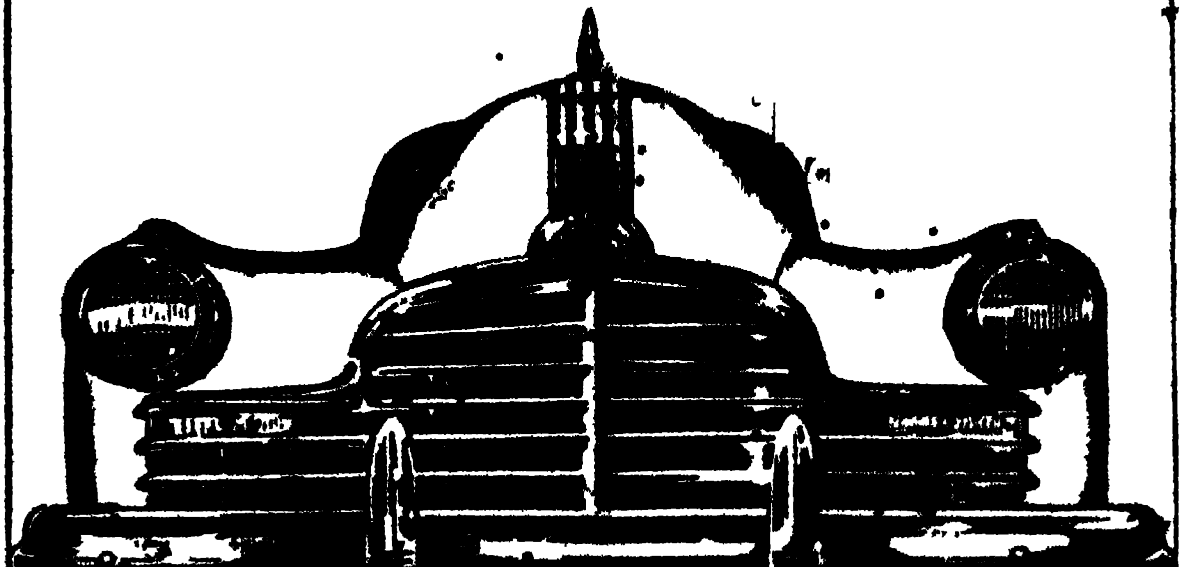
With all of its basic prewar quality plus many notable improvements, the Pontiac for 1946 offers new exterior styling, improved rust-resistant bodies, new instrument panel, heavier chrome finish, improved clutch, improved cooling and a host of other refinements, th[illegible] old name. For further particulars, contact your nearest Pontiac dealer.



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EFFICIENCY NEWS.

Vol. XIII. No. 11 **NOVEMBER 1946**

THE ANSWER TO SHORTER WORKING HOURS

THE demand for shorter working hours, limited overtime, and higher wages is widespread today. Wages have been substantially increased in most organisations since the beginning of World War II. The amended Factories Act has standardised the working week at 48 hours, and placed severe restrictions on overtime.

Since the purpose of industrialisation is to reduce human drudgery and effort, we are in favour of these concessions *provided production and costs are maintained at least at the pre-war level.* Unfortunately, the tendency is just the other way about. The cumulative effect of concessions, strikes, extensive absenteeism, and hartals has been to bring about a serious decline in output and a corresponding steep rise in costs. This state of affairs represents a most serious obstacle to the industrial development of the country; for we cannot hope to compete with other producers while our costs continue to soar.

But apart from stoppages, hartals, and absenteeism (all of which, we hope, are a passing phase), is it possible to maintain pre-war production and costs in spite of shorter working hours? Our answer is an emphatic Yes.

In every factory and workshop, the fundamental aim of management should be to keep the capital investment in the business at work throughout the year, 7 days a week and 24 hours a day. When this is done, overhead costs are substantially reduced. If a factory works for 168 hours a week (that is, continuously) instead of for 48 hours as at present, the overhead costs of the factory would be reduced from 100% to roughly 28·7%. As against this, however, the production cost per unit would probably go up on the evening and night shifts due to lower output under artificial lighting and other unfavourable factors. In spite of this minor disadvantage, however, continuous working represents an effective answer to shorter working hours. In other words, reduced *man-hours* should be compensated for by increased *machine-hours.*

In order to work the machines continuously, we shall have to use sturdier plant than is available at present. Machines will naturally wear out quicker if they are used continuously than if they are worked during one shift only. But even this is an advantage in that newer types of machines would be purchased periodically, and these would serve to improve production.

But machines too need rest. They have to be adjusted, cleaned, lubricated, and serviced periodically, while worn-out parts have to be replaced. This could be done on a systematic basis by providing a certain number of spare machines which could be utilised while a corresponding number were under repairs.

Another effective measure against rising costs is to stagger the weekly-off and holidays. This would again serve to distribute the overhead costs over a 7-day week rather than over a 6-day week as is the case generally at present.

SELECTING A FACTORY SITE

THE success of a factory is influenced to a large extent by the site of its location. In view of our plans for the development of an automobile industry in India, we list below in reminder form the principal factors to be taken into account in selecting a site for an assembly plant.

Display Value: This is of vital importance. An attractive plant on a site near a main railroad or an important highway, creates a favourable impression and provides invaluable propaganda.

Drainage: Is the site provided with storm sewers? If so, do they provide effective drainage?

Housing: Is housing available for employees within a reasonable radius and at economical rents?

Labour: Is sufficient skilled labour available in the vicinity of the plant?

Neighbourhood Satisfaction: Will the erection and operation of the selected property give any cause for those in the neighbourhood to complain (dirt, fumes, noise, smoke, and other industrial effluents)? Will the factory depreciate neighbourhood property values?

Services: Are electricity, gas, sewers, water, and other services readily available? Is the capacity of each sufficient to take care of the additional load accruing from the plant and work-people? Or will they have to be expanded to meet the new demands? Are the costs of the different services economical?

Site: Are there any buildings, houses, or other structures on the property? How long will these take to vacate and demolish?

Sub-soil: Is the sub-soil healthy? Does it provide a suitable foundation for the proposed factory?

Taxes: What taxes are payable in the district? What is the basis of assessment? These two questions should be most carefully considered before a site is finally selected.

Terrain: Is the proposed site even or hilly? If it is excessively uneven, the cost of levelling it will be heavy. If it is marshy, the cost of drainage and foundation may be very high.

Transportation: The proximity of the proposed site to the highway and railway lines is a factor of major importance. In considering this problem, the following points should be investigated:

(a) Can the site be served economically by rail and/or by road?

(b) Is there adequate room for the free movement of railroad trucks?

(c) Is there a convenient and cheap system of bus transport for the transportation of employees from their homes to the factory site?

Zoning: Zoning restrictions and allied legislation should be carefully investigated together with easements or encroachments on the selected property.

These reminders are meant primarily for use in selecting a site for an assembly plant. Actually, however, the reminders are of equal value in choosing sites for other plants as well. A very complete list of reminders, for the purpose of selecting sites for almost any type of structure from a bridge to a wharf, is under preparation.

THEY ARE ADAPTABLE

PHYSICALLY IMPAIRED CAN FILL MANY JOBS

THE placing in industry of physically impaired workers, whether returned soldiers or others, constitutes no employment problem if the management follows a definite programme of vocational selection.

The successful placement of the physically impaired depends primarily on good personnel or management planning.

If this part of the job is well done, there should be a minimum of work for the engineer to do. The object of the selective placement programme is to fit the man to the job, not the job to the man. Therefore, engineering revision of the job as a fundamental means of placing a physically handicapped worker is frowned on and only should be considered as a last resort.

However, before one can recognise fully the employment equality between the impaired and the normal worker, he must cleanse his mind of any misconception concerning the impaired. He must be able to look at a noticeably impaired worker objectively and remember that a twisted, deformed or lame body may be equipped, for example, with a fine mind or be capable of extreme dactyl dexterity An impaired person may have any grouping of a number of outstanding abilities.

It is generally our unfamiliarity with severe impairments that corrupts our thinking, so that we evaluate the impaired solely in terms of the deficiencies we see. It would be more appropriate if we regarded such workers not as physically disabled, but as physically exceptional, so that the connotation of physical limitation is avoided. For, as we now know, when the physically exceptional person is properly placed, he will be definitely a desirable employee.

The results of the tests made by certain Government agencies and by industry show that when a worker is properly placed so that the disability does not affect efficiency in a particular industrial job, the disabled workers are more efficient than normal workers. Even the safety record of handicapped employees is better than that of the normal workers.

Do not think of rehabilitation in terms of the returned soldier. The average ex serviceman has returned an even more desirable employee than when the armed services beckoned. He has been trained, knows the value of loyalty and is in the most employable age group

It is only relatively few who are marked by combat and only these men need the special procedures designed for employing the physically impaired.

If we permit ourselves to think of the selective placement programme as a need concerning only the returned soldier it is unfortunate for the future employment of the handicapped.

Employing the disabled has long been a socio economic problem. Its solution now seems imminent, but the good work that has been done may be destroyed if we feel that our efforts have ended when we have provided for the disabled ex-serviceman.

The so-called rehabilitation problem and the resultant studies for its answers have a deeper significance than we might casually observe. The humanitarian and economic motives

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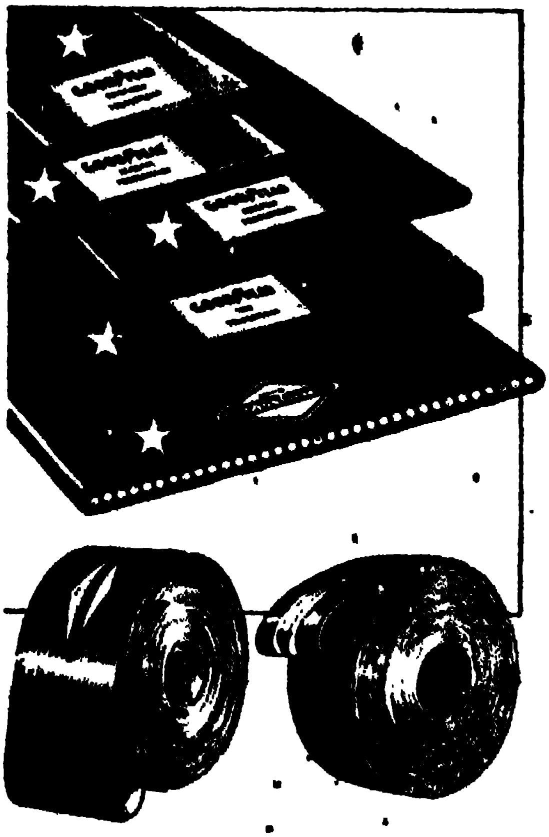

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that touched off the demand for research investigations have done more than just aid the previously almost forgotten handicapped men. They have brought results that will show the way to better personnel procedures for all working men. The development of new personnel methods and the worth of some now used that have been proved through these studies should be applicable towards improving the success, morale and safety of all workers.

A full programme for the successful placing of impaired workers, requires the following elements: A definite company policy on rehabilitation, including instruction of the supervisory staff in proper principles; analysis of jobs with specific reference to possible hiring of disabled workers; a standardised interview for such applicants; medical determination of an applicant's physical capabilities; matching man to the job, with attention both to physical ability and background; job training; and periodic review of results of such placements.

Brain teasers

1 Two towers stand on a plane Lines from the top of the first to the bottom of the second, and from the bottom of the first to the top of the second cross each other 48 feet from the ground The combined height of the towers is 200 feet. How high is each?

2 A ball was thrown up at an angle of 30 degrees from horizontal from the top of a building. The ball is seen to rise for 2 seconds then fall for 3 seconds before striking the ground. How high was the Building?

3 If 6 acres of grass, together with what grows on the 6 acres during the time of grazing, keep 16 oxen for 12 weeks, and 9 acres keep 26 oxen for 9 weeks, with the grass growing uniformly all the time. How many oxen will 15 acres keep for 10 weeks?

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lifting, carrying and lowering

ACCIDENT

1. Almost every person, at some time or other, handles—lifts, carries and lowers—materials and objects. A study of case histories shows that injury has often resulted.

2. The only area for which accurate data on handling accidents are available is in industry. Because injuries occurring while handling objects are so numerous in industry, lifting has become an important accident problem.*

CIRCUMSTANCES

3. Strains and sprains or bruises and cuts are the injuries most frequently resulting from handling objects. The hands, the feet and the back are the three parts of the body most frequently injured.

4. Factors contributing to handling injuries are

Handling loads that are too heavy

Lifting or lowering with the back muscles instead of the leg muscles

Handling load with an insecure grip and failing to watch where hands are placed

(*d*) Handling without sufficient help or failing to use mechanical equipment

(*e*) Handling before getting a firm footing

(*f*) Lifting or lowering with a jerking, twisting movement of the body, or when the body is in an awkward position

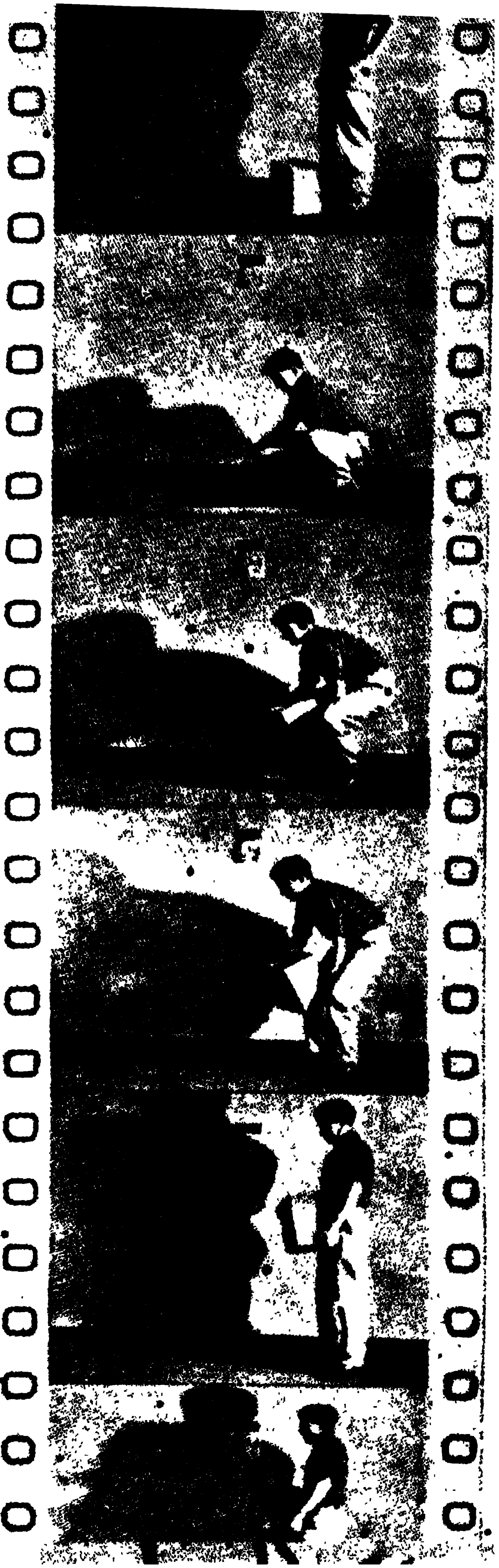
5. Some of the common activities involved in handling are carrying a tray of dishes; stacking crates of milk bottles in the cafeteria; moving luggage, boxes, electric fans, etc. from the closet shelf; moving pieces of furniture while cleaning; putting up or taking down storm sashes.

SAFE MEASURES

6. Lifting. Before lifting a load, take a good look at it, estimate its weight, and decide the best way to lift it safely. If it is too heavy or bulky for your strength, get help. These lifting procedures should be followed:

(*a*) Get a firm footing

(*b*) Crouch down to the object



** Almost one fourth of all compensation cases and 21 per cent of all compensated permanent disabilities are the result of unsafe handling methods or conditions.*

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Charles W. Eliot,
(Late President of Harvard University.)

FERRANTI

---

a name that has been associated with the triumphs of electricity during the past sixty years.

(c) Bend knees, but keep back almost vertical.

(d) Get a comfortable, secure grip on the object.

(e) Straighten knees, rise, keeping load close to body.

7. To maintain a firm footing, the feet should be far enough apart to provide a broad base for balance. A reasonable distance is the length of the shoe.

8. Before crouching down to lift the object, be sure the hands, objects to be lifted, and the floor are free from grease or any other slippery substance. This eliminates the possibility of one's falling or one's dropping the object. One should also watch for slivers, jagged edges, nails and pinch points on the objects to be handled. If there are rough edges, heavy gloves or hand pads should be worn. The edge of the object should be grasped firmly and hands should not slide along the edge. The load should be carried close to the body. The centre of gravity of the load should be almost directly over the feet.

9. When lifting, the weight should be raised gradually by straightening the knees slowly. Lifting in this manner puts the strain on the strong leg and shoulder muscles rather than on the weak back muscles. In rising from the crouching position, it is sometimes helpful to rest the load against one knee. Quick, jerking movements should be avoided because they may cause injury by putting sudden strain on the muscles. Whenever mechanical lifting equipment is available, it should be used.

10. LOWERING. In lowering an object:

(a) Estimate the weight of the object. If it would be too heavy for you to lift, don't try to lower it.

(b) Get in a position so that you will be able to hold the load close to your body. The centre of gravity of the load should be almost directly over the feet.

(c) Turn the object so that you will be able to get a firm hold upon it. If you are lowering a box, you might hold it by the two diagonal lower corners, or by a lower and an upper corner.

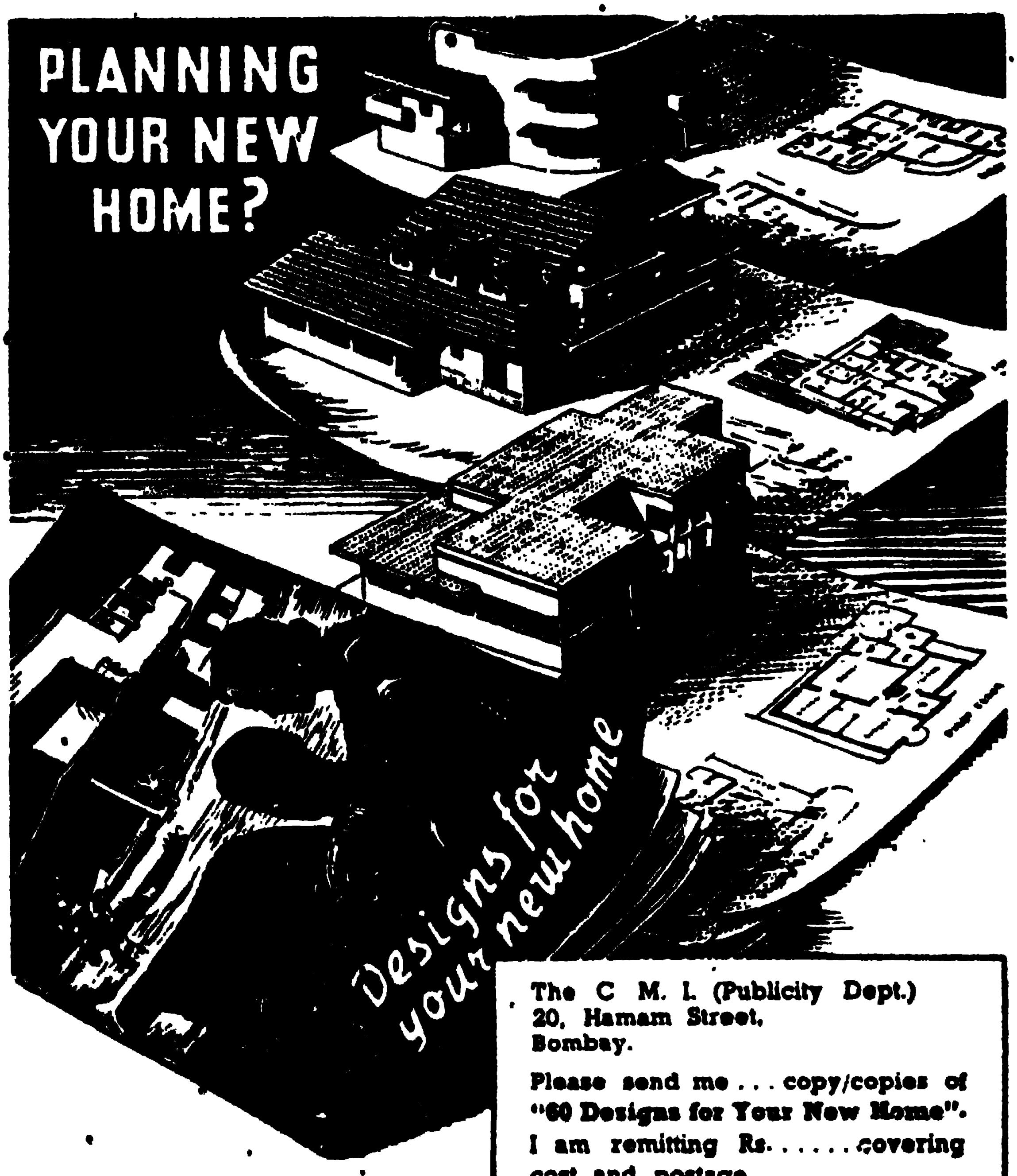
(d) Get a firm footing.

(e) Crouch down, keeping the back almost vertical.

(f) Put the part of the load that is away from hands on the floor first and remove one hand at a time from the load to prevent pinching the fingers.

11. When handling objects from shoulder level or above, the distance should be broken by resting the object on a lower shelf, table, etc. This gives an opportunity for one to get a more advantageous grip before lowering it to the floor. Moving objects from shoulder to floor level is hazardous as the handler may lose his balance and fall.

12. CARRYING. The method of carrying should be suited to the size,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shape and weight of the object. Objects should be carried so that they do not interfere with vision or with the natural manner of walking.

13. Objects with handles, such as suitcases, shopping bags, etc., should be carried at one's side. However, if it is necessary to carry such objects for a long period of time, frequent stops for rest are recommended, as the hands, arms and shoulders may otherwise be strained. Shifting the object from one hand to the other relieves strain. When possible, it is advisable to divide the load into two portions, one for each hand. This balances the weight.

14. When objects are carried on a tray or in front of the body, the tray or bundle should be held at about waist level. One should always be careful that the objects are not so large or stacked so high that they obstruct vision.

15. If one carries objects with the load balanced on the hips, the body must be bent to one side to maintain balance. One arm gets all the strain, and sometimes the hip is chafed by the friction. Whenever possible, it is better to use one of the other methods.

GENERAL DIRECTIVES

16. The actual number of pounds a person can handle safely depends upon the person himself. Physical condition, training and experience in handling will be the criteria for determining how heavy a load any person can handle. A general guide recommended by the United States Department of Labour is: men should handle no more than 50 pounds; women—no more than 25 pounds. Many persons should not handle this much. The top limit for boys and girls is usually much less.

17. A person can usually tell when he is handling too much because he feels strain or pull, which serves as a warning to him to secure help or reduce the load and make several trips. When help from one or more persons is necessary, the efforts should be distributed evenly among the persons. One person should call the moves in order that confusion and resulting undue strain may be avoided.

18. At no time should a person's view be obstructed by the object being lifted or carried. This is especially important when carrying a load up or down stairs, as the probability of falling is increased. Generally, help should be obtained or the load should be divided.

19. Persons continually lifting, lowering and carrying heavy objects should rest frequently. This is necessary because a tired person who has been carrying even moderate loads over long distances for a period of time is more subject to strain, sprain, tripping and loss of balance. Sustained strain on muscles, as a result of continued lifting and carrying, may have the same effect on a person as lifting a load with a sudden jerk.—*Safety Education*.

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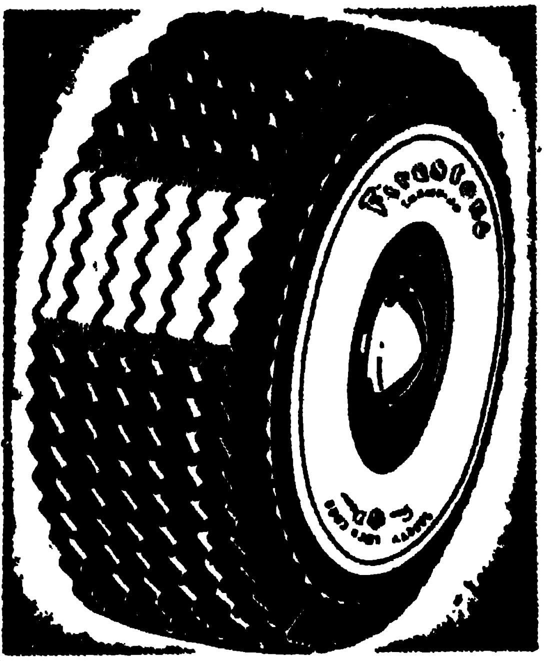

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COLDS

WHEN there is sneezing and sniffling, when the throat is sore and the head as big as all out-doors, and when the eyes are red and watery, the chances are that you have a cold!

Now, a cold may be nothing more than a slight indisposition and it may really be serious. So do not dismiss these preliminary symptoms with the thought it is nothing but a cold! There is no way of knowing just how it will end.

Practically everybody gets colds sooner or later and there are some who seem to be having them all the time. Volumes have been written on the subject; still the problem is not solved. In spite of everything, we get colds—or colds get us—just about the same as people got them in days gone by.

Colds are germ diseases. No one has ever seen the germ, because it is too small to be detected by the microscope. But we know that it lives because we know it grows. It is contained in the secretions of the nose and the throat of persons who have colds; and our knowledge of it is gained from a study of these secretions. We know that this germ produces colds because it has been made to do so in experimental subjects. It is killed by heat and by certain disinfectants. When any one talks, laughs loudly, coughs or sneezes, a spray of tiny droplets is sent into the air. If the person has a cold, infection is in these droplets, and others readily breathe it in. The infection is also to be found on handkerchiefs, on the hands, and on utensils which the individual may use. Point Number One in the prevention of colds, therefore, is to avoid infection by—

1. *Keeping away from coughers and sneezers.*
2. *Avoiding other people's handkerchiefs.*
3. *Avoiding objects recently handled by persons with colds.*

Colds frequently follow chilling or exposure. There are two reasons for this. First, the germ is almost always present in the normal nose and throat; second, chilling or exposure lowers the resistance of the body. With the germ already in waiting, the lowering of resistance affords the necessary opportunity for infection. Point Number Two in the prevention of colds resolves itself into the following precautions:

1. *Dress warmly for outdoor work or play.*
2. *Keep the feet warm and dry.*

Colds bear a relationship to the chemical activities of the body and particularly to the maintenance of the normal alkaline reaction of the tissues. This is not to be interpreted as support for the common notion about "an acid system". In life there is no such thing as an acid system; but there is such a thing as a lowering of the normal reserve of alkalinity. When this happens, colds are likely to appear. The normal alkalinity of the body is maintained by a sensible diet. This does not mean special foods; but it does mean a sensible variety of all kinds of food, with special emphasis on fruits and vegetables, from which come the supplies of alkaline material. It is not necessary to exclude from the diet all acid-forming foods; just eat a sensible all-round diet. Adding excess quantities of Vitamin A or Vitamin D, as often recommended, does no good, although it is perfectly true that if the diet is deficient in these vitamins, there is a general lowering of resistance to all kinds

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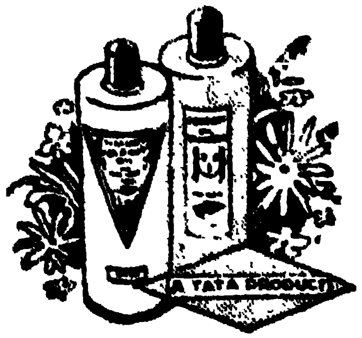

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of infection, including colds. Point Number Three in the prevention of colds is very simple. It is this:

Eat sensibly and moderately of all kinds of good foods, especially fruits and vegetables.

Another factor in colds has been shown to be dryness of the membranes of the nose and throat due to artificial heating without adding moisture to the air. Overheated dry interiors cause the membranes to become dried out and sensitive. Exposure to sharp outdoor cold may then enable germs already on the membranes to take hold and produce infection. At the same time it has not been demonstrated that the so-called air conditioning, although it provides the necessary moisture, will be entirely effective in preventing colds. Point Number Four, therefore, in the cold prevention programme, which can certainly do no harm, is:

Keep indoor air well moistened and keep the temperature not over 70° F., except for old people, the sick, convalescents, or infants.

If, in spite of the above precautions, you get a cold, you can save most of the serious complications, such as infected ears, bronchitis, laryngitis, pneumonia and influenza, by going to bed immediately on the appearance of the symptoms and staying there until recovery. If there is not a marked improvement at the end of twenty-four hours, call a physician. In the meantime, the best procedure is as follows:

1. *Get into a hot bath.*
2. *Take a hot drink (non-alcoholic).*
3. *Cover up with a blanket or two.*
4. *Have, at hand a good supply of soft disposable paper handkerchiefs or squares of old muslin that can be burned.*
5. *Settle down for a good rest.*

If all this does not prevent colds and the consequences, you will at least have the satisfaction of knowing that you have done all that modern science can conscientiously advise.

—*B. C. A. C. Brigade Gazette.*

Organisation Engineering

Mary Follett—a political and business philosopher of the first rank sums up the three chief problems of organisation engineering thus:

(1) How to educate and train the members of an organisation so that each can give the most he is capable of:

> "We should analyse our material—men and women, to discover their deeper and more superficial characteristics and while making the most of what they are, we should try to find ways to develop them into still higher units of service."

(2) How to give each the fullest opportunity for contribution:

> "The managing ability of all employees is a great untapped source of social wealth. For, based upon order-giving our organizing so far has been planned to do without and to suppress the managing possibilities which lie in small degree in each of large numbers of men"

(3) How to unify the various contributions; that is the problem of co-ordination, confessed by the crux of business organisation:

> "Organization as an engineering project will plan so as to arrange the influence about its members that every possible bit of their abilities shall be brought out and aligned into the main direction of effort of the whole organization."

DEATH LURKS NEAR OPEN DOORWAYS

DURING THE YEAR ENDED JUNE 1946, 28 PERSONS LOST THEIR LIVES AND 72 WERE SERIOUSLY INJURED AS A RESULT OF STANDING NEAR OPEN DOORWAYS AND RIDING ON FOOTBOARDS OF RUNNING TRAINS.

EFFICIENCY NEWS, November 1946

—AND SUDDEN DEATH

By F. C. Furnas

Like the gruesome spectacle of a bad automobile accident itself, the realistic details of this article will nauseate some readers. Those who find themselves thus affected at the outset are cautioned against reading the article in its entirety, since there is no letdown in the author's outspoken treatment of sickening facts.

PUBLICIZING the total of motoring injuries—almost a million last year, with 36,000 deaths—never gets to first base in jarring the motorist into a realization of the appalling risks of motoring. He does not translate dry statistics into a reality of blood and agony.

Figures elude the pain and horror of savage mutilation which means they leave out the point. They need to be brought closer home. A passing look at a bad smash or the news that a fellow you had lunch with last week is in a hospital with a broken back will make any driver but a bornfool slow down at least temporarily. But what is needed is a vivid and *sustained* realization that every time you step on the throttle, death gets in beside you, hopefully waiting for his chance. That single horrible accident you may have witnessed is no isolated horror. That sort of thing happens every hour of the day, everywhere in the United States. If you really felt *that*, perhaps the cold lines of type in Monday's paper recording that a total of 29 local citizens were killed in week-end crashes would rate something more than a perfunctory tut-tut as you turn back to the sports page.

An enterprising judge now and again sentences reckless drivers to tour the accident end of a city morgue. But even a mangled body on a slab, waxily portraying the consequences of bad motoring judgment, isn't a patch on the scene of the accident itself. No artist working on a safety poster would dare depict that in full detail.

That picture would have to include Motion-picture and sound effects, too the flopping, pointless efforts of the injured to stand up; the queer, grunting noises, the steady, panting groaning of a human being with pain creeping up on him as the shock wears off. It should portray the slack expression on the face of a man, drugged with shock, staring at the Z-twist in his broken leg, the insane crumpled effect of a child's body after its bones are crushed inward, a realistic portrait of an hysterical woman with her screaming mouth opening a hole in the bloody drip that fills her eyes and runs off her chin. Minor details would include the raw ends of bones protruding through flesh in compound fractures, and the dark red, oozing surfaces where clothes and skin were flayed off at once.

Those are all standard, everyday sequels to the modern passion for going places in a hurry and taking a chance or two by the way. If ghosts could be put to a useful purpose, every bad stretch of road in the United States would greet the oncoming motorist with groans and screams and the educational spectacle of ten or a dozen corpses, all sizes, sexes and ages, lying horribly still on the bloody grass.

Last year a state trooper of my acquaintance stopped a big red

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Hispano for speeding. Papa was obviously a responsible person, obviously set for a pleasant week-end with his family—so the officer cut into papa's well-bred expostulations: "I'll let you off this time, but if you keep on this way, you won't last long. Get going—but take it easier." Later a passing motorist hailed the trooper and asked if the red Hispano had got a ticket. "No," said the trooper, "I hated to spoil their party." "Too bad you didn't," said the motorist, "I saw you stop them—and then I passed that car again 50 miles up the line. It still makes me feel sick at my stomach. The car was all folded up like an accordion—the colour was about all there was left. They were all dead but one of the kids—and he wasn't going to live to the hospital."

Maybe it will make you sick at your stomach, too. But unless you're a heavy-footed incurable, a good look at the picture the artist wouldn't dare paint, a first-hand acquaintance with the results of mixing gasoline with speed and bad judgment, ought to be well worth your while. I can't help it if the facts are revolting. If you have the nerve to drive fast and take chances, you ought to have the nerve to take the appropriate cure. You can't ride an ambulance or watch the doctor working on the victim in the hospital, but you can read.

The automobile is treacherous, just as a cat is. It is tragically difficult to realize that it can become the deadliest missile. As enthusiasts tell you, it makes 65 feel like nothing at all. But 65 an hour is 100 feet a second, a speed which puts a viciously unjustified responsibility on brakes and human reflexes, and can instantly turn this docile luxury into a mad bull elephant.

Collision, turnover or sideswipe, each type of accident produces either a shattering dead stop or a crashing change of direction—and, since the occupant—meaning you—continues in the old direction at the original speed, every surface and angle of the car's interior immediately becomes a battering, tearing projectile, aimed squarely at you—inescapable. There is no bracing yourself against these imperative laws of momentum.

It's like going over Niagara Falls in a steel barrel full of railroad spikes. The best thing that can happen to you—and one of the rarer things—is to be thrown out as the doors spring open, so you have only the ground to reckon with. True, you strike with as much force as if you had been thrown from the *Twentieth Century* at top speed. But at least you are spared the lethal array of gleaming metal knobs and edges and glass inside the car.

Anything can happen in that split second of crash, even those lucky escapes you hear about. People have dived through windshields and come out with only superficial scratches. They have run cars together head on, reducing both to twisted junk, and been found unhurt and arguing bitterly two minutes afterward. But death was there just the same—he was only exercising his privilege of being erratic. This spring a wrecking crew pried the door off a car which had been overturned down an embankment and out stepped the driver with only a scratch on his cheek. But his mother was still inside, a splinter of wood from the top driven four inches into her brain as a result of son's taking a greasy curve a little too fast. No blood—no horribly twisted bones—just a gray-haired corpse still clutching her pocketbook

Post War Reconstruction??

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in her lap as she had clutched it when she felt the car leave the road.

On that same curve a month later, a light touring car crashed a tree. In the middle of the front seat they found a nine-months-old baby surrounded by broken glass and yet absolutely unhurt. A fine practical joke on death—but spoiled by the baby's parents, still sitting on each side of him, instantly killed by shattering their skulls on the dashboard.

If you customarily pass without clear vision a long way ahead, make sure that every member of the party carries identification papers—it's difficult to identify a body with its whole face bashed in or torn off. The driver is death's favourite target. If the steering wheel holds together it ruptures his liver or spleen so he bleeds to death internally. Or, if the steering wheel breaks off, the matter is settled instantly by the steering column's plunging through his abdomen.

By no means do all head-on collisions occur on curves. The modern death-trap is likely to be a straight stretch with three lanes of traffic—like the notorious Astor Flats on the Albany Post Road where there have been as many as 27 fatalities in one summer month. This sudden vision of broad, straight road tempts many an ordinary sensible driver into passing the man ahead. Simultaneously a driver coming the other way swings out at high speed. At the last moment each tries to get into line again, but the gaps are closed. As the cars in line are forced into the ditch to capsize or crash fences, the passers meet, almost head on, in a swirling, grinding smash that sends them caroming obliquely into the others.

A trooper described such an accident—five cars in one mess, seven killed on the spot, two dead on the way to the hospital, two more dead in the long run. He remembered it far more vividly than he wanted to—the quick way the doctor turned away from a dead man to check up on a woman with a broken back; the three bodies out of one car so soaked with oil from the crank-case that they looked like wet brown cigars and not human at all; a man, walking around and babbling to himself, oblivious of the dead and dying, even oblivious of the dagger-like sliver of steel that stuck out of his streaming wrist; a pretty girl with her forehead laid open, trying hopelessly to crawl out of a ditch in spite of her smashed hip. A first-class massacre of that sort is only a question of scale and numbers—seven corpses are no deader than one. Each shattered man, woman or child who went to make up the 36,000 corpses chalked up last year had to die a personal death.

A car careening and rolling down a bank, battering and smashing its occupants every inch of the way, can wrap itself so thoroughly around a tree that front and rear bumpers interlock, requiring an acetylene torch to cut them apart. In a recent case of that sort they found the old lady, who had been sitting in back, lying across the lap of her daughter, who was in front, each soaked in her own and the other's blood indistinguishably, each so shattered and broken that there was no point whatever in an autopsy to determine whether it was broken neck or ruptured heart that caused death.

Overturning cars specialize in certain injuries. Cracked pelvis, for instance, guaranteeing agonizing months in bed, motionless, perhaps

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crippled for life—broken spine resulting from sheer side-wise twist—the minor details of smashed knees and splintered shoulder blades caused by crashing into the side of the car as she goes over with the swirl of an insane roller coaster—and the lethal consequences of broken ribs, which puncture hearts and lungs with their raw ends. The consequent internal hæmorrhage is no less dangerous because it is the pleural instead of the abdominal cavity that is filling with blood.

Flying glass—safety glass is by no means universal yet—contributes much more than its share to the spectacular side of accidents. It doesn't merely cut—the fragments are driven in as if a cannon loaded with broken bottles had been fired in your face, and a sliver in the eye, travelling with such force, means certain blindness. A leg or arm stuck through the windshield will cut clean to the bone through vein, artery and muscle like a piece of beef under the butcher's knife, and it takes little time to lose a fatal amount of blood under such circumstances. Even safety glass may not be wholly safe when the car crashes something at high speed. You hear picturesque tales of how a flying human body will make a neat hole in the stuff with its head—the shoulders stick—the glass holds—and the raw, keen edge of the hole decapitates the body as neatly as a guillotine.

Or, to continue with the decapitation motif, going off the road into a post-and-rail fence can put you beyond worrying about other injuries immediately when a rail comes through the windshield and tears off your head with its splintery end—not as neat a job but thoroughly efficient. Bodies are often found with their shoes off and their feet all broken out of shape. The shoes are back on the floor of the car, empty and with their laces still neatly tied. That is the kind of impact produced by modern speeds.

But all that is routine in every American community. To be remembered individually by doctors and policemen, you have to do something as grotesque as the lady who burst the windshield with her head, splashing splinters all over the other occupants of the car, and then, as the car rolled over, rolled with it down the edge of the windshield frame and cut her throat from ear to ear. Or park on the pavement too near a curve at night and stand in front of the tail light as you take off the spare tire—which will immortalize you in somebody's memory as the fellow who was smashed three feet broad and two inches thick by the impact of a heavy duty truck against the rear of his own car. Or be as original as the pair of youths who were thrown out of an open roadster this spring—thrown clear—but each broke a windshield post with his head in passing and the whole top of each skull, down to the eyebrows, was missing. Or snap off a nine-inch tree and get yourself impaled by a ragged branch.

None of all that is scare-fiction; it is just the horrible raw material of the year's statistics as seen in the ordinary course of duty by policemen and doctors, picked at random. The surprising thing is that there is so little dissimilarity in the stories they tell.

It's hard to find a surviving accident victim who can bear to talk. After you come to, the gnawing, searing pain throughout your body is accounted for by learning that you have both collarbones smashed, both shoulder blades splintered, your right arm broken in three places and three ribs cracked, with every chance of bad internal ruptures. But the pain can't distract you, as the shock begins to wear off, from realizing that you are probably on your way out. You can't forget that, not even when they shift you from the ground to the stretcher and your broken ribs bite into your lungs and the sharp ends of your collarbones slide over to stab deep into each side of your screaming throat. When you've stopped screaming, it all comes back—you're dying and you hate yourself for it. That isn't fiction either. It's what it actually feels like to be one of that 36,000.

And every time you pass on a blind curve, every time you hit it upon a slippery road, every time you step on it harder than your reflexes will safely take, every time you drive with your reactions slowed down by a drink or two, every time you follow the man ahead too closely, you're gambling a few seconds against this kind of blood and agony and sudden death.

Take a look at yourself as the man in the white jacket shakes his head over you, tells the boys with the stretcher not to bother and turns away to somebody else who isn't quite dead yet. And then take it easy.

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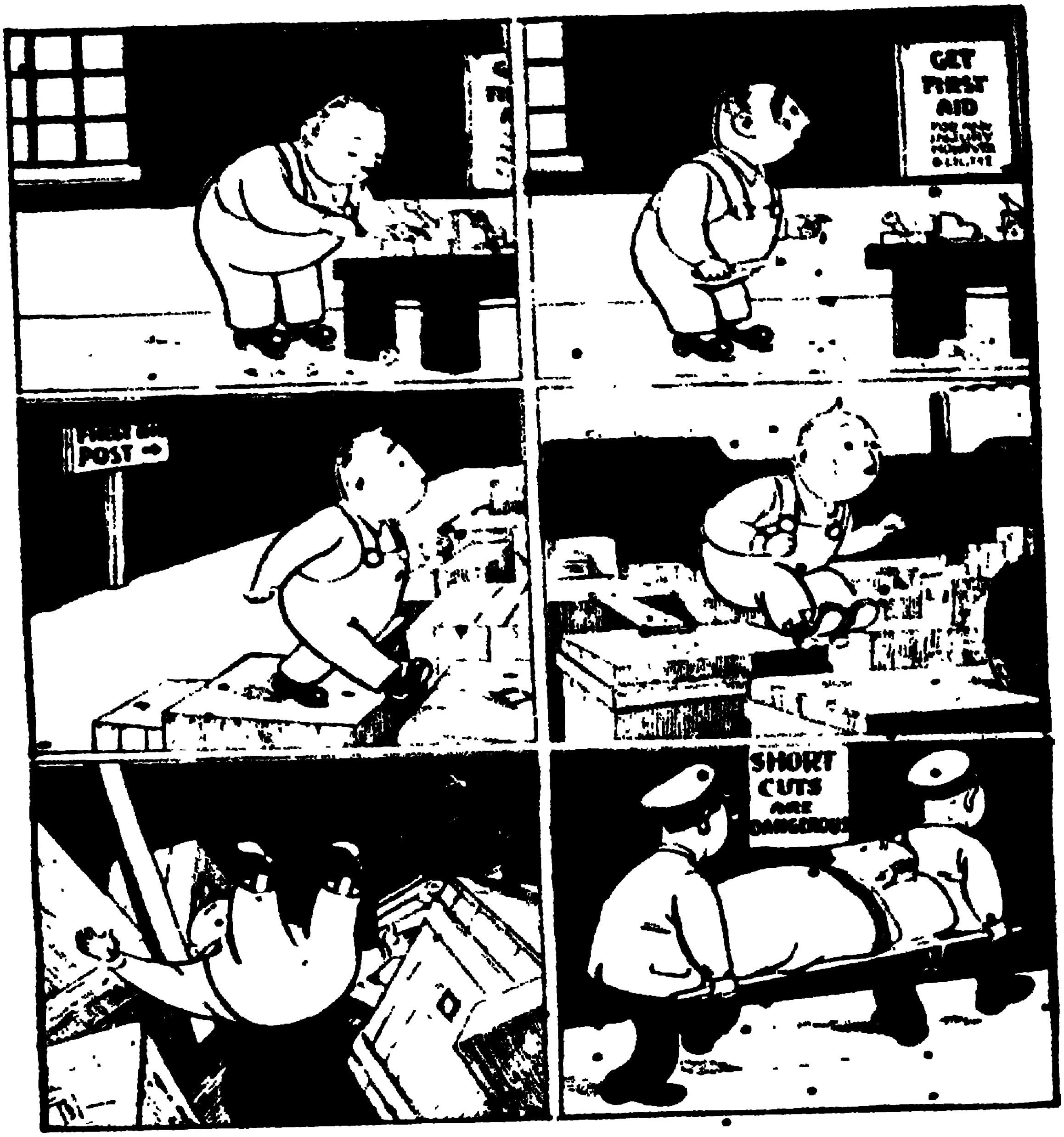


We know, to carry something long
Through doors, or elsewhere, blindly,
And keep the front end down is wrong
For folks don't take it kindly.

To ' keep your end well up ' is wise,
But don't, like poor John Willie,
Apply that slogan to your eyes :
(It makes you feel so silly

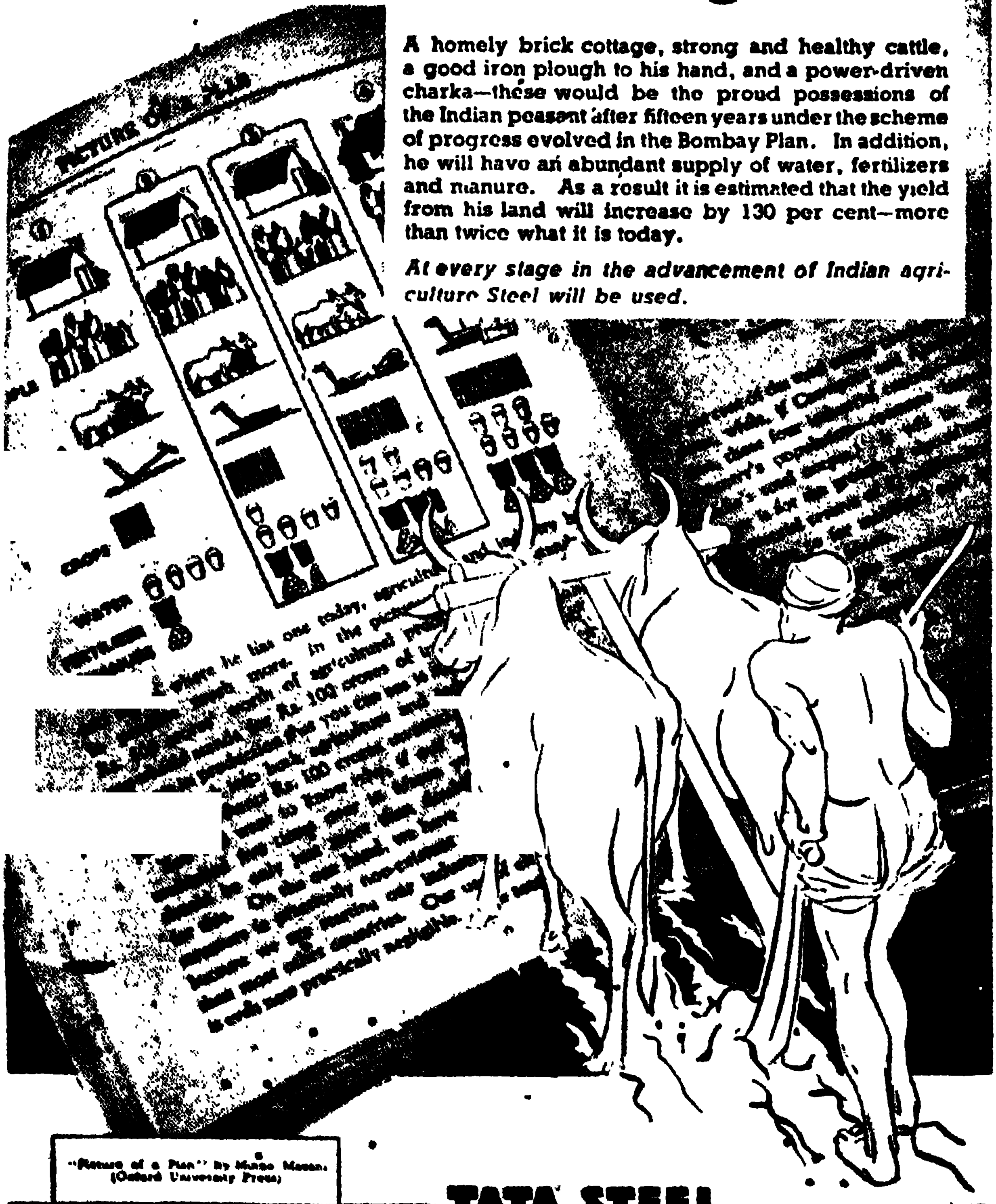
And nothing in his day of toil
Can make a man feel madder
Than slipping in a pool of oil
When carrying a ladder.

So watch your step and don't go wrong
Choose the safe path although it's long

Courtesy:—R. S. P. A.

Twenty-eight pages of these cartoons are available in booklet form at the Safety Bookshop, Electric House, Fort, Bombay, at 4 as. each.

INDIAN AGRICULTURE after fifteen years



A homely brick cottage, strong and healthy cattle, a good iron plough to his hand, and a power-driven charka—these would be the proud possessions of the Indian peasant after fifteen years under the scheme of progress evolved in the Bombay Plan. In addition, he will have an abundant supply of water, fertilizers and manure. As a result it is estimated that the yield from his land will increase by 130 per cent—more than twice what it is today.

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"Picture of a Plan" by Minoo Masani. (Oxford University Press)

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FIRE PRECAUTIONS FOR HOTEL GUESTS

ROBERT S. MOULTON,

National Fire Protection Association.

THE guest in a hotel can be much safer from possible danger by fire if when he enters the hotel he gives some thought to the possibility of fire and what he would do in case fire should occur during the night. The same advice applies to people in any kind of a building, but is particularly important in the case of a hotel where the average guest does not stay long enough to be thoroughly familiar with the building. There is a great difference in the fire safety of different hotel structures and the elements of hazard are frequently features which the ordinary hotel guest might not notice. Just because a building has brick walls, this does not mean that it is necessarily safe inside. Even the trained fire protection engineer must take time to make a thorough inspection of all features of a building before he can pass judgment on its fire safety. There are, however, some things that anyone registering in a hotel can do which will greatly increase his chances of survival in case of a fire occurring in the middle of the night. If you are fire conscious, you should do these things :

1 When entering the hotel, look around the lobby. If you see automatic sprinklers, you will know that the danger of fire is greatly reduced. If there are open stairways leading up from the lobby, this is a danger signal as in case of fire originating anywhere in the basement or first floor the stairs serve as flues to spread the fire rapidly throughout the building. Open elevator shafts present a similar danger. If you see open stairs, make up your mind that in case of fire you will have to get out some other way.

2 In any hotel where you have any doubt as to its fire safety, ask for an outside room not too high above the street—in other words, within reach of fire department ladders. Avoid inside rooms in closed courts where there is no way for the fire department to get in and where if you should escape by the window you would have no place to go.

3 When you get to your room, immediately look around to see how you would get out in case of fire. Find the way to the stairs or fire escapes and make sure that no locked doors or barred windows block your escape. Unless your room is so high up that the physical exertion would be prohibitive, walk down the stair tower and see how you would get to the street from the bottom. Fire doors on the stair tower are for your protection and are usually required by law to be kept closed. If you find them blocked open with wooden wedges, report this to the hotel clerk. If you don't get satisfaction from the hotel clerk, ask to see the manager.

4 Inquire as to what provisions are made to warn guests in case of fire—is there a hotel fire alarm system, or is the only way to notify guests ringing individual phones or knocking on doors ?

5 If other possible means of exit appear unsafe, figure out how in case of necessity you could get out your hotel window. If there are balconies or adjoining roofs, see how you could use them. If, as a last resort, a rope made of bed sheets seems the only possible way out, figure out just how you would tie the sheets and fasten your improvised rope. Be sure you tie a safe knot.

6 Unless immediate comfort is more important than safety from the relatively remote chance of fire, close both door and transom to the corridor before going to bed. Do not yourself contribute to the fire hazard by smoking in bed.

7 If you are suddenly awakened by a night fire, open the door to the hall very cautiously. If the hall seems safe to use, proceed at once to the exit you have previously selected. Don t stop to pack your luggage ; a minute's delay might prove fatal.

8 If, when you open the door, you meet fire or hot smoke, do not try to get out that way but stay in your room.

(Continued on page 365)

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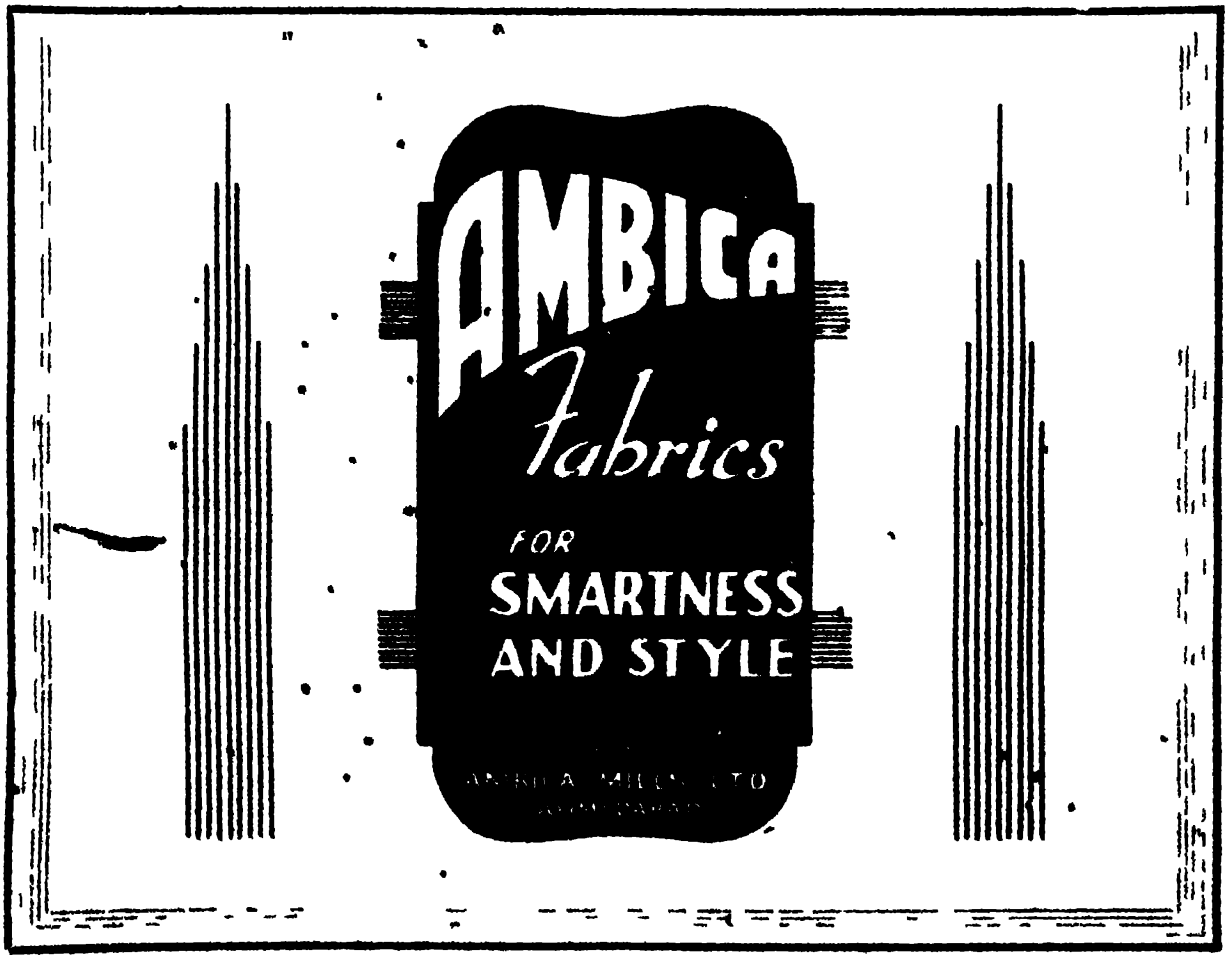

What is Personnel Management?

Personnel Management is that part of the management function which is primarily concerned with the human relationships within an organization. Its objective is the maintenance of those relationships on a basis which, by consideration of the well-being of the individual, enables all those engaged in the undertaking to make their maximum personal contribution to the effective working of that undertaking.

In particular, personnel management is concerned with

- Methods of recruitment, selection, training and education and with the proper employment of personnel;
- Terms of employment, methods and standards of remuneration, working conditions, amenities and employee services;
- The maintenance and effective use of facilities for joint consultation between employers and employees and between their representatives, and of recognized procedures for the settlement of disputes.

* * *

How to pick your Canteen Manager

The applicant for the job of canteen manager should be asked not merely for the names of the firms with whom he has been previously employed, but the nature of their works; the type of product made; the lay-out of the factories or other installations; number of workers employed in each; whether there was a three-shift working or a night-shift; what "breaks" were allowed for main meals and mid-morning or mid-afternoon refreshment; whether there was a tea-trolley service (this can be extremely profitable); what the gross profits were in relation to food costs; the number of meals served daily; number and organisation of canteen staff; typical menus; where and how the food was bought and a most important matter—what overheads the canteen was expected to bear and what the applicant thinks are fair.—*The Welfare.*

* * * *

Laying out of Plant

In place of the conventional and tedious drafting board method of drawing to scale new layouts of furniture and plant, the following new method of making use of models is now available.—

Scale models of machinery and equipment (¼ inch 1 foot) are made and the plant is laid out in miniature. Messanine floors are made of transparent plastic so that the departments beneath them can be readily seen and studied. When a department layout is approved, it is photographed to serve as a permanent record. This method has many advantages as the Methods Engineers and Management can see just what the layout is to be. Nothing is left to the imagination and Engineers and Management are able to see the complete picture. Drawings are unnecessary as the photographs serve the purpose better.

* * *

FIRE PRECAUTIONS FOR HOTEL GUESTS

(Continued from page 363)

Even an ordinary wooden door, tightly closed, can hold back fire for some time before it burns through. Open your window and wait for the fire department. As long as you keep your door and transom closed, you should be safe in your room for a considerable period of time.

9 When the firemen arrive, follow their instructions. Wait your turn at the ladders; there may be someone else in another window in more immediate danger. If it is a question of jumping to a life net, wait until the firemen are ready to catch you.

TRIPARTITE WORKING PARTIES—II

CAN THEY PROMOTE INDUSTRIAL EFFICIENCY?

By JAMES F. WHITEFORD.

The second and concluding portion of Mr. James F. Whiteford's article on the subject is reproduced below with the special permission of the author and THE WOOL RECORD AND TEXTILE WORLD.—Ed.

Examination of the fourth item—labour relations—is largely excluded. Sir Stafford has stated that—"the relations between employers and employees, which are dealt with by employers' federations and trade unions should be considered outside the scope of the inquiries." Education, welfare, and working conditions come within this item, but these are matters for examination at the various mills and factories and a general review of the whole of the industry would be difficult.

So much data are incorporated under the item—statistics—that any examination may prove a lengthy process. Whether the existing data are arranged and supplied to the various executives in the industry in the most suitable form for use is a matter to be discovered. It is difficult to visualise the exact form of an examination of this nature or of recommendations as a result of the survey.

From the foregoing review of the probable reports resulting from an examination of the wool industry by a "working party," it is apparent that none of the betterments recommended is capable of being made operative within the time limit of two years. Readjustment of the plan of the general organisation assuming that a change is recommended, could not be made effective for a period of years. New machinery and equipment for the industry will take several years to install even if the machinery is available. The same is true of new mills and factories should decision be reached that these are necessary "to render the industry more capable of meeting competition in home and foreign markets."

After reviewing the whole situation, one is forced to the conclusion that the problem of effecting improvement in efficiency is not thoroughly understood. Building new mills and factories and filling them with the most modern machinery will not automatically produce the results desired. For efficiency to be achieved, the machinery has to be operated at capacity. New machines operated at low efficiencies may be much less productive than old machines operated at high efficiencies. The problem needs to be viewed in the proper perspective.

Efficiency is a record of performance. Improvement results from individual effort. It is an error to assume that high operating efficiencies can be imposed en masse upon an industry. The real problem revolves around the details of operation in the units of the industry—the individual mills and factories. The efficiency of any industry is merely the average of the performance efficiencies of the operating units. Until the efficiencies of the units are established it is not possible to measure the efficiency of the industry.

Establishing the efficiency of an operating unit is no easy task. At least six different factors have to be measured separately—

Efficiency of investment.
Efficiency of design.
Efficiency of material.
Efficiency of equipment.
Efficiency of control.
Efficiency of personnel.

From this it is apparent that any inquiry into the efficiency of an industry is far more involved than may be imagined. It emphasises the complexity of the problem of "industrial efficiency."

This is no time or place for academic discussions. For the moment, effort must be directed toward such adjustments as will render the industry more capable of meeting competition in home and foreign markets. It is not a problem to be dealt with so much by a "working party" as by the managing executives of the individual units of the particular industry.

It is not a question of waiting for new equipment, but rather of utilising the existing machinery to better advantage.

They need to follow the example set by the women when they had to deal with the problems arising from insufficiency of clothing coupons—make do and mend. For want of a better description, the "mending" can be termed improving the efficiency."

The only way to strengthen an industry is to strengthen each of the operating units of that industry. The operational details of each mill and factory have to be studied in order to ascertain where mending is necessary. In this connection efficiency can be described as: Doing in the best way whatever has to be done, and not doing at all whatever is not necessary.

In each unit, special attention requires to be given to the study of three important factors—application, control, and experience. Application relates to the efforts of executives and staff as much as to those of the operatives at the machines. Control is an organisational matter covering more than the issuing of instructions and seeing that they are executed. Experience is valuable only if it is utilised in a systematic manner. Improvement in the efficiency of operation can be effected by a wide variety of methods.

I submit three illustrations of personal experience. In one factory, not a textile, an increase of 32 per cent. in production volume from existing equipments resulted from alterations in the plan of the operating organisation. That means that there was nearly 50 per cent. more equipment than was actually necessary; an investment efficiency of about 67 per cent.

In one of the manufacturing departments, the efficiency of investment was only 50 per cent. The problems were very complicated but were solved satisfactorily. The resultant betterments in this particular department yielded reductions in manufacturing costs in excess of £40,000 per annum.

Analysis of operating statistics of a group of mills disclosed losses approximating £90,000 somewhere in the vast organisation during the year. Modification in the plan of control sufficient for the purpose was both lengthy and involved. As the final result there was an annual saving of approximately £92,000.

At the close of a financial year, a textile manufacturer was faced with a debit balance of some £37,000. Thorough investigation finally disclosed a faulty operating policy. Actually, it had always been faulty, but circumstances had been such as to prevent unsatisfactory results during previous years. The necessary alteration in the operating policy had the effect of restoring credit balances.

Each of these three firms was regarded as a leader in the particular industry. Further, each had been rated as successful by the customary standards of measurement. It may be added that in neither instance was labour responsible in any manner for the adverse conditions.

Similar illustrations can be submitted in a wide variety of industries. But these are sufficient to emphasise the importance of examining the individual operating units. Admittedly, the evidence submitted has little in common with what is usually termed efficiency. It does, however, have a great deal to do with enabling competition to be met with any degree of success.

If the primary causes of these "inefficiencies" were common in the mills and factories of all industries, or even in the same industry, the problem of improvement would not be difficult. In that event, the corrective measures could be reduced to a formula and applied throughout. But "inefficiency" exists in such a variety of forms that it is seldom that it can be readily recognised. Even when discovered it is necessary for the fundamental causes to be established before the nature of the betterments can be determined. It involves intensive research.

In whatever industry, it seems fairly obvious that the efficiency of the whole can be improved only by improving that of each of the operating units. This must involve the particular "working party" studying conditions in each unit. Rather a gigantic task, especially when the time factor is very important. According to the proposed plan, the "betterments" are to be fully operative within two years at the maximum limit.

I do not know the exact number of operating units in the woollen industry. Probably it will be more correct to term it the "woollen and worsted industry," but that does not alter the general problem. If we segregate "woollen" and "worsted" spinning, and "woollen" and "worsted" weaving there are eight sections in the industry instead of the six I have listed. If a "working party" is appointed for each section, it merely adds to the complexity of the problem as the recommendations made by the eight parties will have to be consolidated.

I am told that there are approximately 300 mills in the worsted spinning section alone. For the working party to spend one day at each mill, the examination of this one section will occupy a full year. The examination will have to be rather hurried to be completed in one day. Similar conditions obtain in the other sections. It is difficult to see in what manner a "working party" could examine the woollen industry and submit constructive recommendations for improving the efficiency of operation within a period of a few months.

Working parties have already been appointed for five important industries. Sir Stafford stated at the time of his report that he hoped to have final reports from each of these parties early in the New Year. One is reluctantly forced to the conclusion that the real problems of securing improvement in industrial efficiency are far from being understood.

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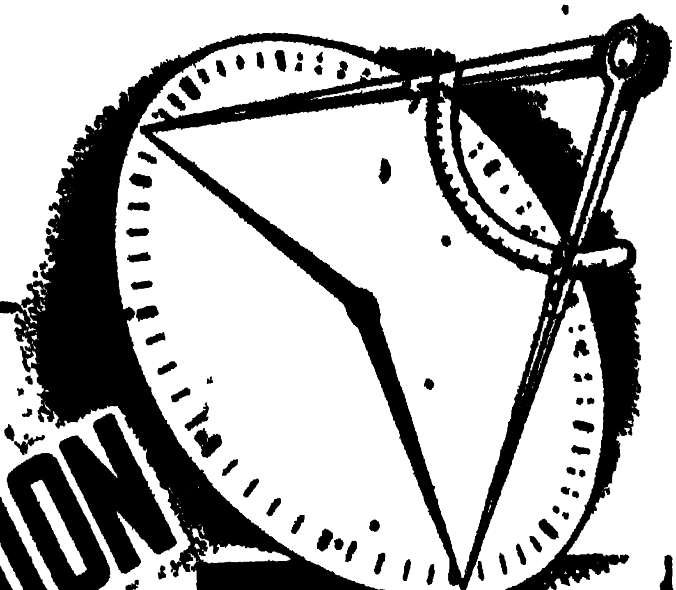

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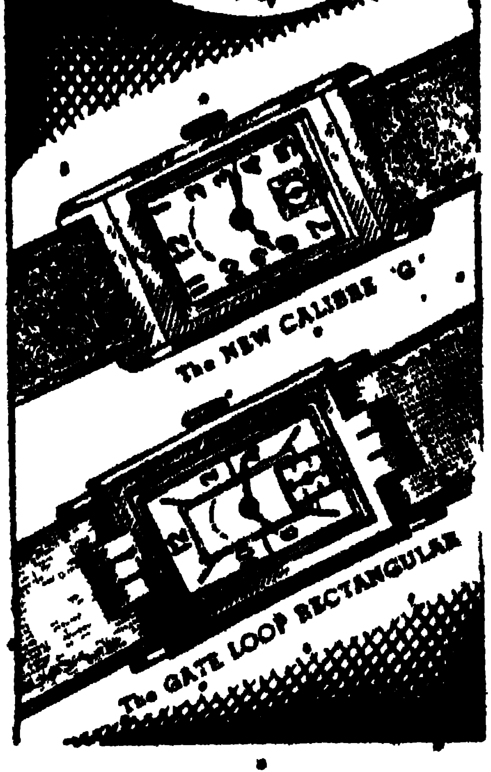

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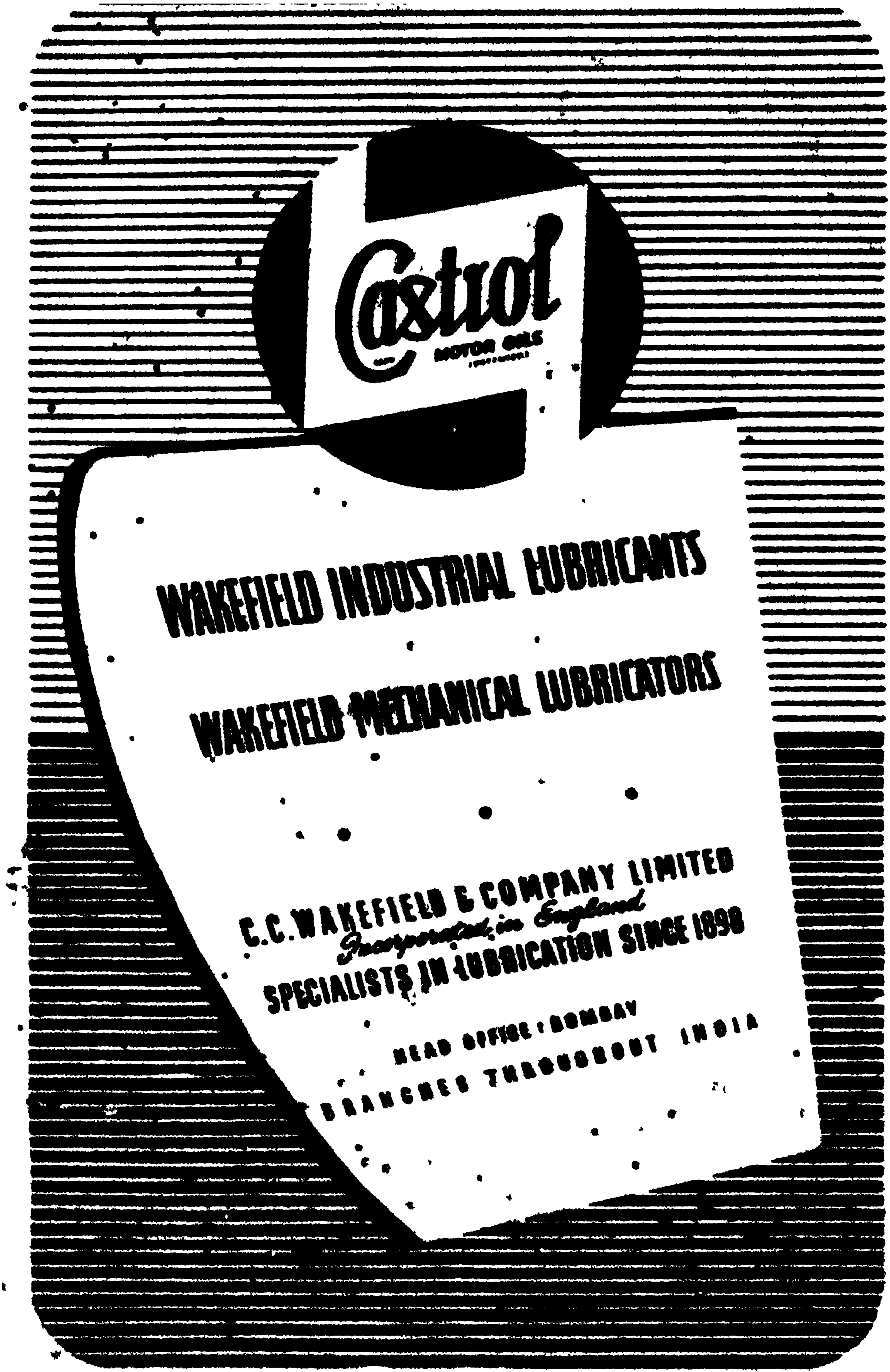

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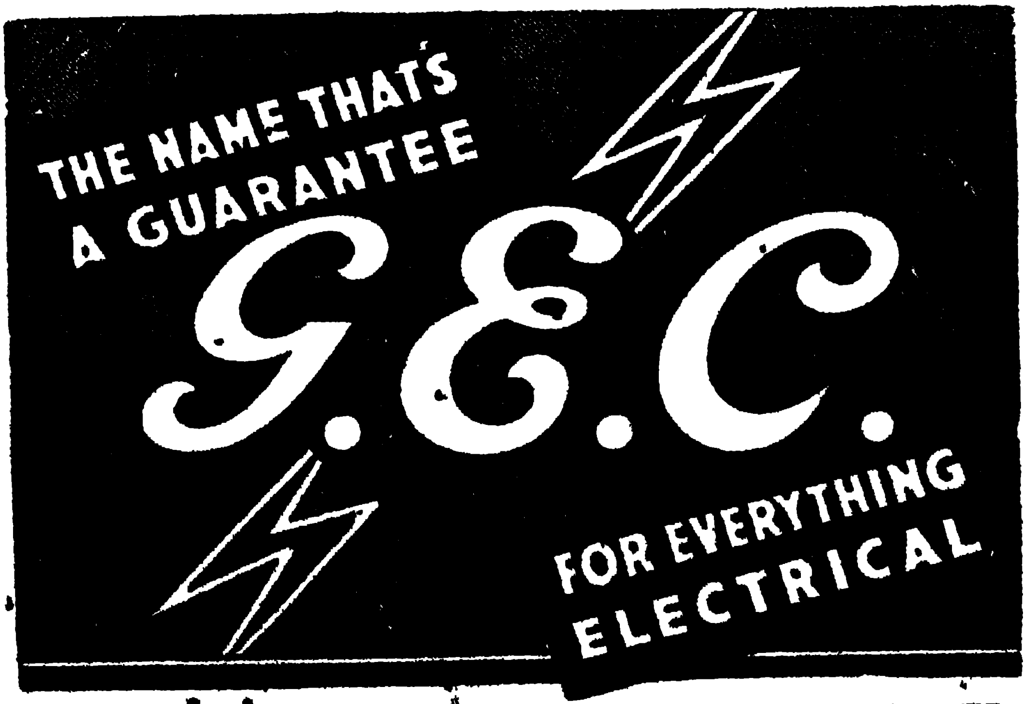

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EFFICIENCY NEWS

Vol. XIII. No. 12 **DECEMBER 1946**

TOWARDS BETTER WORKING CONDITIONS

THE Government of India recently appointed a Fact Finding Committee consisting of four members—two civil servants and two economists—to report on the working conditions prevailing in thirty-eight of our more important industries. A number of reports have already been issued by this Committee. For the most part they reveal working conditions which are very far from being satisfactory.

The businessmen and industrialists of the country must to a large extent shoulder the responsibility for this state of affairs. As a general rule, we have seldom given serious thought to the question of improving industrial working conditions. It is time we shed our lethargy in this respect and gave concerted attention to the development of welfare activities as a definite part of the industrial system.

At the same time, we must rid ourselves of certain widely prevalent but nevertheless false ideas about welfare work. The old-fashioned foreman who ridicules welfare measures on the proud plea that none of his men are "softies" is a menace to healthy industrial development. So is the foreman who introduces welfare activities condescendingly, as an act of benevolence. The plain truth is that satisfactory working conditions are indispensable in securing a high level of efficiency in our business and industrial organisations.

We recently prepared a list of reminders* and circulated them to a number of knowledgeable persons. The comments received from one of the members of the Fact Finding Committee are significant: "Few sectional and departmental heads are qualified and competent persons to supervise working conditions. They are usually burdened with other routine work and have little opportunity to exercise their imagination. If, however, they are competent to do so, they are afraid of making suggestions which involve monetary expense to their employers."

To this we replied that the inspiration to improve welfare conditions must come from the top; and that the enthusiasm to introduce welfare measures must originate with the employer and filter down, through the supervisors and foremen, to the level of the workmen. For this to happen, however, employers must first feel satisfied that working conditions are infallibly reflected in the quantity and quality of industrial output.

In view of the extreme importance of this subject, we urge that welfare supervisors in the country form themselves into an association for the exchange of views and experiences. This aspect of factory work is making rapid progress in other parts of the world. In England, for instance, there is the Industrial Welfare Society, and several other associations to deal with the general subject of industrial welfare. This is apart from the numerous institutions which deal with specific subjects like safety and canteen work. The formation of such Associations in India would certainly serve to improve the performance, and to increase the professional knowledge, of our welfare supervisors.

---

* See *A Survey of Working Conditions*, page 371.

THE COST OF MANAGEMENT

AN employee with whom I had a conversation the other day said that he did not see why his Manager should be so highly paid as compared with him. Most employers are aware that this attitude is typical of the average employee. The argument in regard to disparity of incomes is seriously advanced, and it therefore deserves a serious answer.

The ordinary employee must be invited to delve a bit deeper into this issue so that: (*a*) he sees all the relevant facts; and (*b*) sees them in their proper perspective.

One such basic fact is that it is misleading to compare *gross* salaries. The Manager and his clerk both receive the same benefits from the country's government. But the Manager might be paying Rs. 1,000 for these services by way of income-tax, whereas his clerk probably contributes less than Rs. 10. The tax in both cases is deducted at source, so that the correct way of comparing salaries would be on the basis of *nett* salary drawn. This substantially reduces the alleged wide disparity between the earnings of a Manager and an average clerk.

Next, examine the responsibilities of the two. A Manager in control of a large business employing about 10,000 men is normally paid about Rs. 5,000 per month. The nett cost of management in this case works out at 4.8 annas per employee. Surely this cost is not excessive considering the size of the organisation and its wide activities, especially when we remember that the Manager is responsible for the efficient performance of this large labour force. The ordinary employee no doubt casts envious eyes on his Manager. But the latter gets the nett pay of only 15 such employees. And these employees, it should be borne in mind, are invariably engaged in routine work with little or no responsibility attached to their positions.

Indeed, the disparity in responsibility is far wider than the disparity in incomes. This fact is reflected in the law of supply and demand. The abilities and qualities needed for managerial success are so scarce that there is a dearth of suitable applicants for managerial posts in spite of the (apparently) high salaries offered. Every fair-minded employee will agree that salary must be related to the job. Every vocation requires a certain basic intelligence and certain minimal abilities and qualities. The higher the level of intelligence, and the greater the abilities and qualities, the more difficult are they to find. For this reason, jobs which call for outstanding talent have to be better paid than those requiring mediocre (and therefore easily available) talent.

Then again, the man at the top, holding a position of responsibility, has a position to keep up to. He has to mix with people who give his firm business, and who (by virtue of their status and contacts) influence his business and factors (like government legislation) relating to his business. For this purpose, he has to keep an establishment and indulge in expenditure which the ordinary employee need not and does not in fact incur. It is true that he gets a certain amount of comfort and enjoyment from this outlay, but that is incidental to his main purpose.

A proper appreciation of all these facts points to the conclusion that the cost of management is far from excessive, and that the wide gap between the salary of an average manager and that of an average employee is apparent rather than real.

A SURVEY OF WORKING CONDITIONS

IN this month's editorial, we have urged the establishment of welfare supervision on professional basis. In the present article, we submit a series of questions relating to Working Conditions. We invite industrialists to answer these questions in regard to their own organisations. We hope this will stimulate further questions and lead to a cross-examination of welfare practices prevailing at present, with a view to their improvement and expansion.

Accidents: What particular accidents are your work-people liable to? Have you a Safety Committee? Is the Safety Committee an active one? What arrangements have you for first-aid? Have you a first-aid detachment in the organisation? Have you an ambulance to take injured people to hospital? What arrangements have you for rehabilitation?

Air: What are the characteristics of the air in the different departments of your factory (dust, humidity, movement, smell, temperature and ventilation)?

Baths: Is the work in your factory dirty, average, or clean? Are baths, showers, wash-basins, and other toilet amenities provided? Is hot water available daily?

Cleanliness: Is your organisation clean? What are your housekeeping methods? How often do you paint and white-wash?

Clothes: Do any of the processes or trades require safety clothes, or other protective equipment? What provisions have you made for lockers? Are they secure and suitable? What drying arrangements have you made?

Creches: Do you employ women workers? Have you any arrangements for taking care of their infants?

Cycle Parks, etc.: What arrangements have you for taking care of your employees' cycles and cars? (Rail, security, sun, weather).

Diseases: What are the industrial diseases of your trades? What protection and treatment do you provide?

Education: What are your policies in regard to health and safety? How are they put over? (Films, posters, talks, etc.). What arrangements have you made, external or internal, for the advancement of your apprentices and workers generally?

Explosions: Is there any possibility of an explosion in the apparatus or equipment? What protective measures have you introduced?

Fatigue: Is any of your work fatiguing? If so, what arrangements have you made for rest pauses? Is salt supplied to heavy manual workers and others engaged in "hot" occupations which induce excessive perspiration?

Fire: What arrangements have you for fire prevention and protection? Have you consulted the Chief of the Local Fire Brigade? Have you consulted the Chief of the Salvage Corps in regard to protecting your organisation in the event of fire? How do you store inflammable materials and equipment?

Flooring: Are the floors comfortable and safe? Are the aisles and passages designed with a view to safety? Are the stairways easy and safe?

Food: Have you a canteen? What provision is made for meals, teas, refreshments, and drinking

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water? To what extent are these services taken advantage of by employees? Do you periodically partake of a standard meal in the canteen?

Health: Do you have a system of medical examination on employment, at periodical intervals subsequently, and in case of sickness? Have you a medical staff with hospital connections? What activates them (missionary zeal, salary, etc.)? What is their manner of approach (Gruff, mechanical, sympathetic)? What medical treatments do you provide (dental, eyes, ears, nose, throat, physio-therapy and x-ray)? Are medical records kept of all employees Is medical attention given to workers' dependents, or to workers confined to bed at home? Have you any form of medical insurance?

Hours: What are your hours of work, normal and overtime? Do you employ night-workers? Are any of your men employed on night shifts? What special provisions have you made for such men?

Housing: Is any housing accommodation provided? If so, what is the floor area per tenement? What does it include, bathing, lighting and toilet arrangements? Is this accommodation within walking distance of the factory? If not, is transport provided or easily available?

Indebtedness: To what extent are your workers indebted? What means do you employ to relieve them?

Lighting: What are your artificial and natural standards of lighting? Is there any glare? What use have you made of colour to supplement light?

Lockers: Are lockers provided for all your staff? Are they suitable and secure?

Noise: Is there any noise in the workplace? What protection have you provided against this?

Posture: What form of seating do you provide?

Psychology: Do you make use of any psychological means in selecting employees, and in making their employment as comfortable and attractive as possible? What are your ideas on the employment of colour, cleanliness, and good housekeeping.

Recreation and Sports: What do you provide for your employees' recreation? Do you encourage indoor and outdoor games? Do you have a library well stocked with books, magazines, and newspapers? Have you a gymnasium, music hall, theatre, wrestling pit, and grounds for cricket, hockey, tennis, football and other games?

Rest: What is your general policy in regard to rest pauses, rest-rooms, and other amenities for periodical pauses in work?

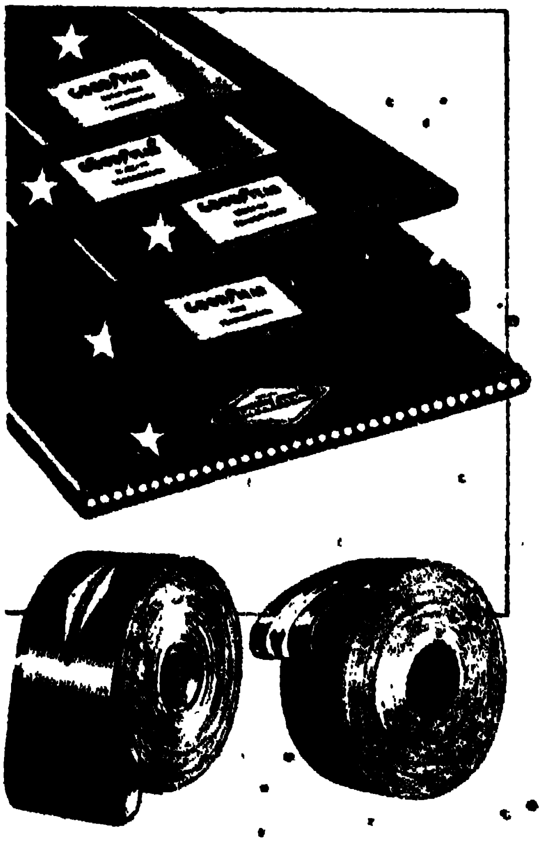
Sanitation: What provisions have you made for spitoons, toilet, urinals, and water-closets? Are they adequate to the needs of your staff? Are they kept scrupulously clean? Is there any special squad for this purpose? Is a water-tap provided for each water-closet?

Schools: Have you a system of schooling for apprentices, and for employees' children or dependents? And for those employees who wish to advance? Do you provide any incentive for such persons?

Shops: Do you maintain any shops where workers can buy cloth, grain, and other consumer goods?

Vibration: Do you use pneumatic tools? What provisions have you made for dead-man's hammer, etc.?

(Continued on page 391)



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"MONTY" AS A LEADER

TRUE leadership is always a fascinating, if baffling, quality. It would be rash to attempt any orthodox definition of what it means or comprises. But for the present purpose, it could be defined as the ability (probably acquired and certainly capable of further development) to inspire a body of men to strive towards a fixed goal with perseverance, discipline, loyalty, and good cheer.

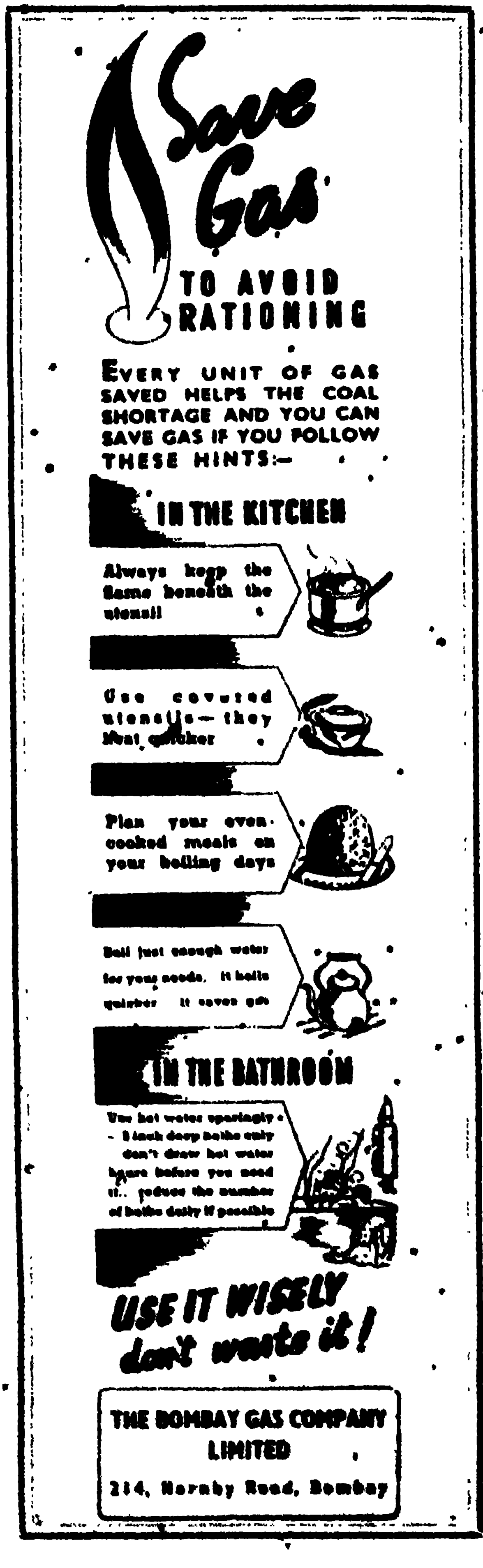
Such leadership is essential not only on the field of battle, but also in the management of our business and industrial enterprises. That is why we have decided to discuss here an article contributed some months ago to an English newspaper by Sir James Grigg, Secretary of State for War in England from 1942 to 1945. The article in question was devoted to Field-Marshal Montgomery, " the most successful British general since Wellington, if not since Marlborough ;" it took Monty's military genius for granted and dealt with some of his outstanding qualities as a leader of men. The progressive manager and supervisor will readily see the close similarity between the Field-Marshal's leadership in military affairs and the best type of leadership in our offices and factories.

Contact: Probably the most fundamental element in Monty's technique of leadership was his passion for personal contact and first-hand information. He did not believe in what may aptly be described as " remote control." He was always well forward in the battle zone, keeping in constant touch with the activities in the field. A Chief of Staff at Headquarters relieved him of all paper-work and administrative routine. He worked extremely hard, we are told, to preserve direct contact with the troops and " to make himself a vital, dominant influence in their lives."

Co-operation: Monty never tried to *force* co-operation from his men. He *earned* it by taking them into his confidence. Before every campaign, or new phase of a campaign, he made a point of assembling all the lower commanders down to the lieutenant-colonel, and personally explained his plans to them, with the injunction to pass on everything relevant and helpful to the officers and men under their charge. Finally, as a prelude to the most significant events, he made a tour of his whole command and addressed large gatherings of the men. This created a close bond between himself and his men, and the latter were naturally whole-hearted in their co-operation with the " captain " of the " team."

Liaison: Not satisfied with the personal contact he maintained with his men, he sought to further this contact with the aid of liaison officers. These were especially picked and trained to serve as the eyes and ears of the C.-in-C. Their task was to tour the battle area, to visit subordinate headquarters down the line, and to bring back to Tactical Headquarters each night an accurate and vivid picture of what was going on. In the light of these reports, adjustments could readily be made.

Morale: Monty considered this spirit indispensable in war. But it is equally indispensable in the endeavours of peace. One of his principal methods of establishing an unshakable spirit in his troops was to build up the legend that his Army or Army Group was unbeatable. Nor was this an empty boast. By his presence with the troops, whether in the flesh or through his charac-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teristic messages, he passed on his own confidence throughout the armies. Confidence begets success and success grows by feeding on itself. And so faith and work reinforce each other, and the invincibility changes from legend to an immutable law.

His close contact with his men did much to entrance and sustain morale. He constantly visited units, bringing them newspapers, cigarettes, passing a cheery word, or sometimes explaining on the map directly to the soldiers how the battle was working out.

Orders: Our behaviour is primarily governed (or should be governed) by the situation in which we find ourselves. In view of this, detailed orders or regulations are unsatisfactory, because they preclude flexibility. Sir James tells us that Montgomery never made a habit of issuing long or detailed orders. "At the beginning of a definite phase in a campaign, he would issue a short directive to his Army Commanders; thereafter all orders were verbal and direct from C.-in-C. to Army Commanders."

Subordinates: Leadership expresses itself to a large extent in the ability to pick and train dependable and efficient subordinates. Montgomery is reported to have said that he spent as much as a third of his time in choosing subordinates, going right down the line in the course of his search. He has been accused of choosing his subordinates chiefly from amongst those he commanded and observed in action. This may be true, but it can hardly be avoided however impartial one may be. In any case, he chose well; for we are told that his resourcefulness and adaptability owed much to his devoted band of officers who acted as his direct assistants, both at headquarters and in the field.

THE HUMAN FACTOR IN ACCIDENTS

ERIC FARMER, M.A.

Amongst the papers presented to the Royal Society for the Prevention of Accidents was one by Eric Farmer, an authority on the subject of Accident Prevention. We take pleasure in publishing a résumé of this, through the courtesy of the National Institute of Industrial Psychology.—ED.

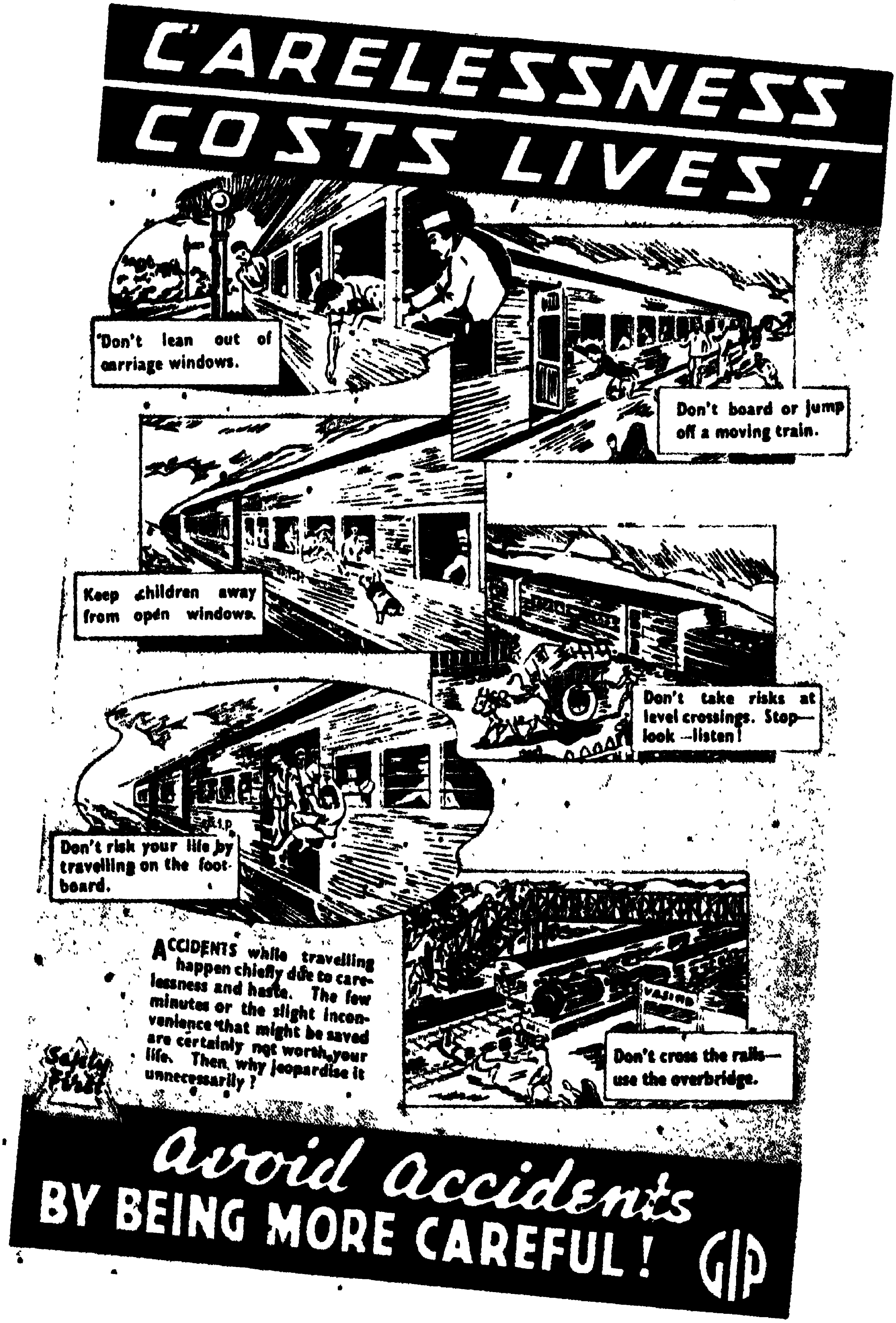
THE main theme of the above address is an account of the study of individual differences as a cause of accidents—"those specific factors which alter the reaction of different individuals to the same environment." From a "crucial theoretical" standpoint his definition of an accident is "a response at a subconscious level of an individual suffering strain of one kind or another and therefore being unable to co-ordinate accurately with his particular environment."

The statistical study of accident proneness started, as Mr. Farmer points out, with the examination of the accident records of groups of factory workers. Hypothetically, accidents might happen (*a*) by chance; (*b*) by biased chance, that is to say, "if an individual has an accident, his chances of having another one are biased either negatively or positively, according to his disposition," that is, according to his reaction to the first accident; and (*c*) by "inherent inequality in liability," in regard to which investigations have prove that "the distribution of accidents in any working group is best explained on the assumption that some individuals in that group are more liable to sustain accidents than others exposed to equal risk. It does not, however, mean that the other two hypotheses do not also operate."

The next stage in the inquiry was to find out how far accident proneness is a stable factor. Accident proneness is to be distinguished from general accident liability, which is "the sum total of the factors which determine whether we have an accident or whether we do not." The general conclusion reached by various investigators is that "there is a relative degree of stability in this factor of human accident proneness."

The next stage of the inquiry, one which is still going on, was to try to measure some of the individual differences which are connected with accident proneness. "How far can we measure what is different in those people with a high degree of accident proneness and those with a low degree?" Naturally we think first of differences in intelligence. Mr. Farmer's conclusion is "that small variations of intelligence within an occupation do not correspond with variations in accident rate, but that if people with insufficient intelligence find themselves in an accident situation they probably cannot think quite quickly enough at times to appreciate it and so get out of it."

A battery of tests of hand-and-eye co-ordination, devised by investigators of the Industrial Health Research Board, has been widely experimented with; and where the data have been adequate, they have always shown a positive relationship with accident rates, although the tests "are not of a fine discriminatory nature." If we give employee applicants such a battery of tests, "we may be relatively certain that we shall select for the occupation those people whose chances of having



CARELESSNESS COSTS LIVES!

Don't lean out of carriage windows.

Don't board or jump off a moving train.

Keep children away from open windows.

Don't take risks at level crossings. Stop—look—listen!

Don't risk your life by travelling on the foot-board.

Don't cross the rails—use the overbridge.

ACCIDENTS while travelling happen chiefly due to carelessness and haste. The few minutes or the slight inconvenience that might be saved are certainly not worth your life. Then, why jeopardise it unnecessarily?

Safety First

Avoid accidents BY BEING MORE CAREFUL!

GIP

negatively biased, and as we go on in that way we shall get the department gradually freer from accidents. . . . All experiments that have been tried along these lines have shown that it can be done. It does take trouble on the part of those concerned, and . . . it is not very often that people are willing to take the trouble necessary to put into practice what we know of accident liability and proneness, but in so far as it is done, it will be a very practical contribution in lowering the accident rate."

Perseveration, the tendency to persistence of mental processes, is positively related to accident rate. "If we are very strong perseverators we find it difficult to acquire new habits, if we are weak perseverators we find it easy to acquire new habits but rather difficult to retain old ones. It has been shown in one or two experiments, but it needs much more confirmation, that people who find difficulty in acquiring new habits do, on the whole, tend to have a higher accident rate than others."

Accident rate is also affected considerably by the factor of Fatigue, especially when it results in undue effort to maintain output. Among strong perseverators longer training can overcome their difficulty in learning a new skill; but in periods of strain it is especially muscular habits thus acquired with difficulty that tend to break up; and under these conditions there is liability to accidents.

Another factor, probably one of the most important and one about which the least is known at present, is Emotional Stability. Experiments have indicated that accident proneness is related to nervous instability. "There is little doubt that emotional disturbance, even at a low level, affects co-ordination."

ADVENTURES OF SAMMY HARE

Then Jill, as they went on their way,
Said " See the beacons, bright and gay,"
" Cross here," and naughty Sam, with glee,
Climbed up and shouted " Can't catch me ! "

(To be continued.)

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FIRST-AID TRAINING FOR YOUR WORKMEN

THERE is a widespread impression that accidents are inevitable—a necessary evil. But careful studies of thousands of accidents in all fields of human activity clearly point to a totally different conclusion: that *most* accidents are due to thoughtlessness or carelessness or both.

Accidents are a drain on our human and material resources. They cause heavy losses not only to industry but to the community at large: for accidents mean low production, high costs, and, ultimately, higher prices to the consumer. We need to ponder over these hard economic facts on the eve of our industrial expansion.

Welfare officers have a great role to play in the field of accident prevention. We *must* have a competent Safety Committee in every one of our workshops and factories. These committees should study the causes of accidents, eliminate whatever hazards they find in the environment under investigation, and train workmen in safe habits of work.

But safety education is not enough. Safety-consciousness will certainly *reduce* accidents but we shall probably never be entirely accident-free. Mishaps are always with us, and it is a wise policy to be prepared for any emergency. That is where first-aid comes in. Just as training in safety reduces the accident-*frequency* rate, so also training in first-aid serves to reduce the accident-*severity* rate. Here is another field of vital welfare work. Welfare officers could render a great service to the workmen in their respective organisations by training them in first-aid.

First-aid should be taught through lectures, demonstrations, practice classes, and dramatization. The first three methods are well known; the fourth, and probably the most effective of all, consists in staging "accidents" and thus giving the teaching a flavour of reality.

This method shows an "accident" taking place on a stage in front of an audience of workmen and others. A crowd of curious onlookers rapidly accumulates around the "victim." They know nothing about first-aid treatment and remain aloof. But there are few, equally ignorant, who decide to help. As might be expected, they only "aggravate" the condition of the "victim." Then a trained first-aider comes along and pushes the crowd away, explaining meanwhile what should be done in the case, and demonstrates the correct procedure. Different types of "accidents" are similarly staged, and the incorrect and correct treatments are explained and demonstrated in each case. This method has been tried out in a large organisation in Bombay with excellent results.

Another essential in first-aid training is publicity. Some of the ideas which will help in this direction are demonstrations and exhibitions of first-aid practice at sports meetings, social gatherings, entertainments, and other employee functions; the regular use of effective posters, *frequently renewed*; badges, medals, and certificates for workmen on graduation in first-aid, and a suitable bonus or recurring payment to go with these emblems and certificates. Other incentives will suggest themselves to keep enthusiasm alive.

It is important to make it easy and agreeable for workmen to receive

(Continued on page 399)

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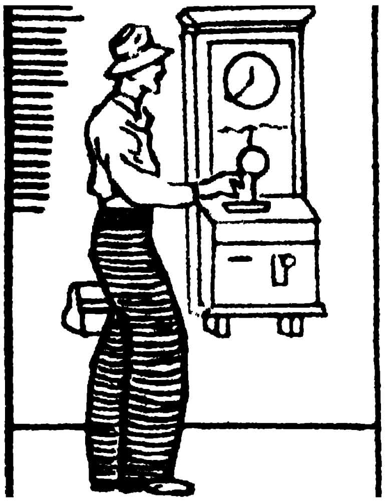
ON THE JOB



ON your first job you were faced with the time-clock problem. What to do? But soon you got on to the routine, and punching-in became a habit. On all jobs—handling a tool, running a machine, using the elevator—you have to concentrate your mind until you know how. Then it's routine.

There's always a safe way how, just as easy to learn as any other way. When the safe way becomes a habit, you are automatically playing safe—all the time.

KEEP FLOORS CLEAR

A common cause of injury is a fall on a dirty, greasy, or littered floor. Level, clear, clean, lighted—that's the safe rule for floors. Trip-ups and slip-ups will seldom happen if we are all tidy. Get the tidiness habit.

ARE THEY BOTH WRONG?

"Keep to the right." That's the rule. But fellows that come charging around corners—maybe they don't know the rule. "Keep to the right and keep your eye skinned." That's the fool-proof rule.

A COOL HEAD

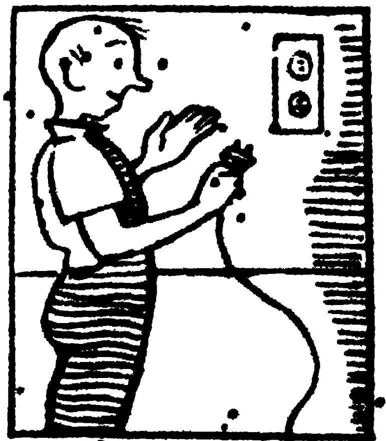
In an emergency a cool head will save you and others from injury and worse. A cool head can be the result of self-control and training. "I got so flustered" is a confession of weakness.

EDGED TOOLS

Leaving edged tools around loose is asking for trouble. If you're out for blood, cutting tools will get it for you. But you're not. So get the habit of putting edged tools away—right away.

ON GUARD

Machine guards are cages to check accident hazards. Never operate a machine without its guard. The guard is to protect YOU, not the machine from injury.



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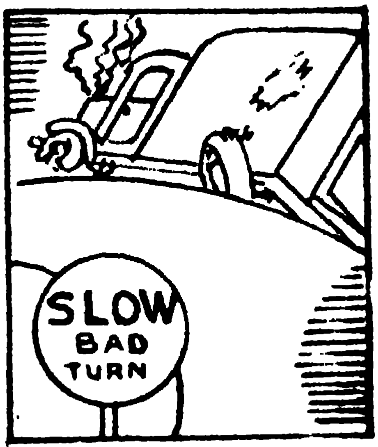
DEVELOP SAFE METHODS

"I do things my own way." Yes; so does everybody. It's habit. If you form the habit of doing things safely—then, when you "do things your own way", you will do them the safe way. Habit is second nature.

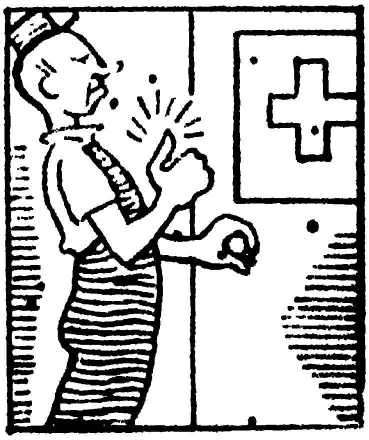
TURN IN THE DUDS

The minute you find a tool is faulty, turn it in. If it is a machine, or equipment, report it at once. No one expects you to take chances or run risks with duds, which are always dangerous.



DRIVE CAREFULLY

Even if you and your truck have the road to yourself, drive carefully, obey the traffic rules, do as the signs tell you. If there is no other danger, there is the great danger of getting into bad driving habits.



DON'T WAIT 'TIL IT'S TOO LATE

An accident or injury, however slight, to you or to anyone, calls for an immediate report for first aid. Get quickly to the people whose job is first aid and have the wound dressed properly.

CIRCULAR LETTERS

IT is a common practice amongst committee men to circulate papers from one member to another. The best way to accelerate the movement of circular letters is to have them circulated in "geographical" order. In other words, a circular letter, after going to Mr. A, should go next to the person whose geographical location is nearest to that of Mr. A, and so on.

In order to enable the office which sends out a circular letter to know its position at any time, it is advisable for each addressee of the circular letter to notify the original office that the papers have been read by him and sent on to So-and-So.

In the case of important circulars, the Secretary sending them out should keep a progress chart so that the location of the papers is known at any given moment. Unless this is done, considerable delay is likely to ensue in case one or more addressees are away.

The procedure followed by one committee is contained in these instructions.

1. *Please pass these papers on to the next addressee in the order given.*

2. If the addressee is away at the time, or is unable to attend to these papers within a day or so, please pass them on to the next addressee.

3. Please notify Mr. . . . . (Tel. No. . . . .) when you have despatched these papers to the next addressee.

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PROMOTING INDIA'S INDUSTRY

THE American experts, Messrs. Ford, Bacon and Davis, who inspected no less than 57 representative industrial establishments have submitted their views to the Government of India.

The Report contains a number of valuable suggestions which will be of considerable help to the all-round industrialisation of India.

Through the courtesy of COMMERCE, we are privileged to present the Committee's conclusions and recommendations. These are arranged together in alphabetical order.

1. Consultants: The services of experienced engineers should be entertained by the Government to be used as consultants and to prepare feasibility reports for the proposed industrial schemes.

2. Finance: A non profit institution should be established, similar to the Reconstruction Finance Corporation in the U.S., to supply funds for assisting sound industrial plant expansions as new construction or for providing working capital.

3. Industries, Secondary: There is almost complete lack of commercial secondary industries manufacturing essential articles such as reamers, taps, dies, precision cut gears.

The question of feasibility of devoting one or more of the Government ordnance factories to the temporary production of such secondary industry products as private enterprise is not able to supply should be gone into.

4. Locomotives, Manufacture of: A study of the costs and practicability of manufacturing complete locomotives in the Kanchrapara Railway Workshops is advisable.

5. Machinery, Manufacture of heavy: In the Amritsar Ordnance Factory, special investigations should be carried out for conversion of the plant to the manufacture of specific larger machine tools and other essential heavy machinery, under leased private industrialists or by some State agency.

6. Panels, Industrial: The five Industrial Panels dealing with heavy machinery, electrical machinery, light machinery and equipment, prime movers, and machine tools, may be regrouped into two Panels, headed and staffed by full-time paid personnel, responsible to the Government. One panel should deal with heavy machinery, prime movers and machine tools and another with the other three subjects.

7. Products, Designs, Patents, Agency for: Industrialisation in India will be greatly accelerated if the tried and proved designs, and specifications, worked out in other countries, can be secured for manufacture in India by direct purchase or licence.

An agency, preferably governmental, be run with a view to channelling, in so far as it is possible, all negotiations for the use of foreign patents, licences, working drawings and specifications for Indian manufacture.

India should induce foreign organisations of proved merit, which manufacture products which can be introduced into India, to set up Indian manufacture on some mutually agreeable profit-participation basis.

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8. Products, Extruded, Non-ferrous: The Government should have a report made on the practicability of the temporary production of commercial non-ferrous extruded products at the Katni Ordnance Factory, until private industry is in a position to supply them.

9. Products, Standards Association: Product standardisation and the means for attaining and maintaining it are lacking in India, and this, unless corrected, will result in confusion and higher costs of production.

An agency on the lines of the American Standards Association should be set up.

10. Purchasing Power: The purchasing power of the rank and file is very low, and the introduction of conveniences and household utilities possible under wider industrialisation will necessarily proceed slowly.

11. Statistics: Statistics and records of imports and production in India are not available in form to permit analysis of Indian markets for industrial materials.

12. Training: There is a shortage of well-trained technicians and supervisors, particularly of men who have actually operated machines in shops and factories, and thus acquired first-hand knowledge of technical operating problems and industrial relations problems.

The Government should take active steps for the extension of all facilities throughout the country for training, in a thorough manner, adequate numbers of technicians and supervisors for industry.

IS YOUR JOB GETTING YOU DOWN?

THE news today makes sorry reading. The world is full of perplexing problems which appear to grow more complex each day. Some of them seem to be quite insoluble. It is difficult at times to see what we are heading for. In short, the peace to which we looked forward through six weary years of war appears to have brought us only more vexations.

It is the same in business and industry. Our managers and supervisors are faced with a bewildering variety of problems of which we were hardly aware in the past: absenteeism, black markets, controls, scarcity of supplies, late deliveries, worn-out plant and machinery, shorter working hours, higher wages, slower production, strained labour relations frustrations all along the line.

All these adverse factors tend to make us feel helpless and to darken our entire outlook. But this is where we must fight back. Pessimism and lethargy never solved a problem, and we must refuse, therefore, to yield to inertia or indifference. But how are we to tackle the problems which seem to encircle us and to make progress appear impossible?

Let us begin at the beginning. We must first of all prepare a business-like list of our problems. The mere act of putting a problem down in writing, accurately and concisely, is a long step towards its solution. Collect the *facts* about each problem, and the *causes* behind the facts. That is the foundation on which to build. After we have done this, we must invite our colleagues and subordinates to act likewise in regard to their own problems.

The second step is to secure the advice and co-operation of our assistants and staff in the solution of these problems. This is important. We must have the full and active participation of every member of the organisation. Unfortunately, many a management believes (or acts as if it believed) that workmen are paid to work, not to think. This is an error, and a costly one at that. If their co-operation is sincerely desired and properly evoked, workmen are often capable of providing effective solution to problems which are often considered insoluble. But we must go further than merely invite suggestions from the staff. We must tell them, in specific terms and with concrete illustrations, what exactly it is that we want. And when they respond with worth-while ideas, we must give them the credit for it and reward them adequately for their efforts.

Solving problems calls for time and concentration. The third step, therefore, is to see to it that our executives are not over-burdened with routine. Work and responsibility must be delegated down the line according to the ability and aptitude of each member of the staff.

Where a large number of problems need solving, it would be necessary to allocate a group of specially selected men from the organisation to delve into them. In doing this, arrangements should be made for them to get all the information they are likely to need through personal consultation and inspection with other workers engaged in the same problem or job. This "research squad" should also be provided with the latest literature on the subject under investigation.

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Or it may be more efficient to utilize the services of an outside agency for this purpose. The advantage of this method is that an "outsider" brings a fresh and unprejudiced view-point to bear on our problems, whereas the people within the organisation are too close to their problems to see them clearly and with the correct perspective. A disadvantage though not a major one in calling in outside help is that no outside agency can be expected to be as familiar with our internal organisation as we are.

A very valuable suggestion in this connection, however, is to send a suitable man from within the organisation to work with an outside agency. This alternative integrates the advantages of both the alternatives previously suggested.

Finally, we should always remember that our problems, however vexing they may appear to us, are fundamentally the same as those of other businesses and industries. And they are being solved everyday all over the world. We should do our utmost, therefore, to profit by the experiences of others. This we can do by keeping abreast of current technical literature, by visiting parallel organisations, and by inviting visitors from those organisations to review and criticize our policies and practices. If we do this, our problems shall not remain unsolved for long.

* * *

A SURVEY OF WORKING CONDITIONS

(Continued from page 373)

Water, Drinking: What provisions have you made for clean, cool, and safe water for drinking?

Weather: What protection do you provide your employees against the natural elements—cold, frost, rain, sun and wind?

Welfare: What is your organisation for welfare? Have you a qualified officer in charge of this? What is his relation to the manager? Does he report direct or otherwise?

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PRESERVING THE GIFT OF SIGHT

IT has been estimated by scientists that one-fourth of human energy is expended through the eyes. It is most important, therefore, that we should learn how to use our eyes effectively, that is with a minimum of strain. Moreover, under modern working conditions, eyes are easily damaged. This again stresses the importance of learning to use the eyes in the best possible way.

Most of us have been told repeatedly that the eye bears a remarkable resemblance to the camera. It is most interesting to study the similarity between the two:

The *camera* focuses its picture on to the film ;	The *eye* focuses its picture on to the retina (sensitive film) ;
By means of a lens and a regulating aperture ;	By means of a lens and the pupil (regulating aperture) ;
The process of exposure being mechanical stopped by closing the shutter.	The process of exposure being stopped by closing the eyelids (shutter).
The picture is developed.	
Chemically, when required.	Mentally and instantaneously.

This comparison should serve as a pointer in the matter of preserving the gift of sight.

Blinking: In developing the picture that you see, you should never stare, as this strains the eye. The focus should be altered repeatedly to overcome the tendency to stare. If you look about aimlessly with your mind elsewhere, that is, if you are staring, you are doing harm to your eyes; for the back of the retina becomes over-exposed with a series of pictures. It is much better, to close your eyes when you are thinking about something rather than looking at something; nature has provided us with eyelids for this purpose. Besides resting the eyes, blinking serves to clean the surface of the eye-balls and thus prepares this organ to receive a fresh series of pictures; it also keeps the eye-balls clear and moist and improves circulation. The average person does not blink enough.

Practitioners of better sight methods advise people to practice blinking constantly so as to acquire the unconscious habit of blinking frequently during the process of seeing.

Shifting: In looking at a large area, the eye changes its focus from point to point, but in looking at a small area or object the eye is rather inclined to indulge in a concentrated stare. This produces strain and sight deteriorates. If you try to thread a needle, for instance, you will find that the more you stare at the eye of the needle, the less likely you are to succeed; if, on the other hand, you trace the outline of the eye of the needle, you will thread it easily. The reason is that in the second case, your eyes are relaxed. The same principle applies to all visual operations. In the process of seeing, therefore, you should shift your point of vision, and trace the outline or details of the object you are looking at. This will enable you to get a more correct picture of your subject, and at the same time with a minimum of strain.

General Health: The health of your eyes depends to a large extent on your general health, that is, on the functioning of your nerves

(Continued on page 395)

"**ELECTRICITY**—carrier of light and power, devourer of time and space, bearer of human speech over land and sea, greatest servant of man."

Charles W. Eliot,
(Late President of Harvard University.)

FERRANTI

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POTTERY WORKING PARTY

Summary of Principal Recommendations.

The working Party appointed to examine and inquire into the various schemes and suggestions put forward for improvement of organisation, production and distribution methods and processes in the Pottery Industry have now made their report.

We take pleasure in summarising the principal recommendations. They will be found of great value not only to the Pottery Trade here but also to much wider industrial fields, for they cover recommendations which all industries would be advised to consider, when improving their efficiency.

2. Strict enforcement of Factory Act requirements is necessary for the efficiency of the industry as well as for the well being of its workers.

3. The present wages structure should be simplified and codified.

4. Taxation policy should be modified in order to allow scrapping of obsolete potteries.

7. Flow production methods should be studied.

8. Good plant engineers should be employed.

9. Semi-automatic making machinery should be widely adopted.

10. Manufacturers should limit the number of their shapes and patterns.

13. Traditional methods of buying, mixing and processing materials should be established on a more scientific basis.

15. There should be regular joint discussion of common problems by the trade and distributors.

16. The use of carton packing should be investigated.

17. A co-operative Export Merchanting service for domestic ware should be organised.

19. A practical method for ascertaining the true cost of individual articles, including the actual cost of loss at each stage should be ascertained.

20. A regular system for reviewing welfare arrangements should be organised.

21. A co-operative publicity scheme to help the general public to look for and to recognise good quality should be considered.

22. The organisation and arrangement for co-operative research should be urgently examined.

23. A complete Craft Training Scheme for all apprentices should be established.

27. Managerial and advanced technical training for all branches of the pottery industry should be provided.

28. Quarterly statistics of sales should be collected and published.

PRESERVING THE GIFT OF EYESIGHT

(Continued from page 393)

and the quality of your blood and muscles. The better the blood supply, the better will your eyes function. Nature has provided an effective method of increasing the supply of blood to our eyes by the simple process of screwing up the eyelids. This circular muscle compresses the eye-ball and squeezes the blood out of the tiny capillaries which feed this organ with blood. On releasing the pressure, a fresh supply of blood flows into the capillaries, thereby supplying the muscles and nerves of the eye with a richer supply of blood. If your eyes feel tired, you should screw them up now and then; this will reduce fatigue.

A considerable amount of damage is done to the eye nowadays by the excessive amount of near work we do. Limiting the use of the eyes to a small range causes fatigue, strain, and short-sightedness. One way to control short-sightedness, and even to eliminate it, is to deliberately use the eye muscles through their whole range. This can be done by looking at a distant object (a hill or a tower), and immediately at a near object (the tip of a pencil or your nose). By doing this several times during the day the muscles of the eye are strengthened and fatigue is relieved.

Building a Watershed

Preliminaries are complete and surveys are now being made for the construction of the eight dams and a barrage across the Damodar River. Indicating a capital expenditure of fifty-five crores of rupees, the Damodar Project would be "an example in the multi-purpose development of a watershed for India." Steel will be used for this gigantic project.

DAMODAR VALLEY PROJECT

7,60,000 ACRES OF IRRIGATION

A series of reservoirs providing flood control, supply of water for irrigation and a system of hydro-electric and thermal power stations inter-connected by transmission lines—these are the main features of the multi-purpose project planned for Bengal and Bihar.

This map indicates the main areas which will be affected by the Damodar Scheme. The shaded portions show the present flood-threatened areas, bordering on the river

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WHAT'S YOUR TELEPHONE SCORE?

A COURTEOUS TELEPHONE call is a simple means of making a friend. Every day more than 15,000 calls are made through business firms, switchboards. This is an average of two calls per employee. Were your calls friendly ones? Check yourself on the accompanying score sheet.

For each "YES" answer, give yourself 5 points. For each "SOMETIMES," 2 points. A "NO" answer scores zero. 110 to 120 is excellent; 100 to 110 is good; 90 to 100 is fair; below 80 is unsatisfactory.

	YES	SOMETIMES	NO
DO YOU KNOW THE NUMBER? You can save time by looking it up.			
DO YOU ALLOW TIME TO ANSWER? Don't be impatient. The other fellow may be a few feet from his 'phone.			
DO YOU ASK IF CONVENIENT TO TALK? You wouldn't break into a meeting if you were calling in person.			
DO YOU SPEAK DIRECTLY INTO THE TRANSMITTER? Your lips should be half an inch from the mouthpiece.			
DO YOU SPEAK IN A NATURAL TONE OF VOICE? The telephone is sensitive—don't shout.			
6. DO YOU VISUALIZE THE PERSON? Speak TO the person, not AT the telephone.			
DO YOU SAY "THANK YOU" AND "YOU'RE WELCOME"? That's your best substitute for a smile.			
8. DO YOU LISTEN ATTENTIVELY? You wouldn't interrupt in a face-to-face conversation.			
DO YOU USE THE OTHER PARTY'S NAME? To him, that's the sweetest sound in the whole language.			
10. DO YOU EXPLAIN WAITS? The person at the other end can't see you.			
DO YOU APOLOGIZE FOR MISTAKES? A wrong number annoys both parties.			
DO YOU ANSWER PROMPTLY? You may save an important call.			
13. DO YOU GREET THE CALLER PLEASANTLY? You aren't rude to friends when they come to your front door.			
14. DO YOU IDENTIFY YOURSELF PROMPTLY? That "Guess who" game was cute in high school.			

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	YES	SOMETIMES	NO
15. DO YOU LEAVE WORD WHERE YOU'RE GOING ? No one likes to wait while the dragnet is spread for you.	......	......	......
16. DO YOU ASK QUESTIONS TACTFULLY ? There may be a few things even you needn't know about.	......	......	......
17. DO YOU TAKE THE MESSAGE AND WRITE IT DOWN ? When answering calls for others, don't rely on memory.	......	......	......
18. DO YOU SIGNAL THE OPERATOR SLOWLY ? If you move the receiver hook too rapidly, the operator can't see the signal.	......	......	......
19. DO YOU END THE CALL PROPERLY ? Allow the called party to end the call and hang up first.	......	......	......
20. DO YOU REPLACE THE RECEIVER GENTLY ? You don't slam the door when your guests leave the house	......	......	......
21. DO YOU DIAL THE CALL YOURSELF ? It is poor practice to call a person through the Operator ; It is worse still to call him through the Operator and keep him waiting	......	......	......
22. DO YOU KEEP TO THE POINT WHEN TALKING TO THE OPERATOR ? If you engage the Operator in conversation on unessential points you prevent him from dealing with other calls	......	......	......
23. DO YOU ANNOUNCE YOURSELF OR YOUR ORGANISATION'S NAME ? Answering "Hello" to telephone calls is meaningless and waste of time	......	......	......
24. DO YOU REPRESENT YOUR FIRM ON THE TELEPHONE ? A good telephone voice not only reflect your personality but your firm's standard of courtesy, efficiency and service.	......	......	......

* * *

FIRST AID TRAINING FOR YOUR WORKMEN

(Continued from page 381)

their training. They should be permitted to attend first-aid classes during working hours, as otherwise the training will appear to be an additional hardship. They should also be supplied with all the "tools" necessary for their training : pencils, note-books, apparatus, uniforms (invaluable from the psychological point of view), literature, and other accessories.

All this will, of course, cost you time and money. But it is difficult to think of a sounder investment. Here are a few of the dividends which you and your workmen will derive : reduced absenteeism, increased production, a more harmonious relationship between management and workmen, and character development through scientific training. We have deliberately ignored the very important humanitarian aspect of first-aid work ; because, apart from benevolent motives, the training of your workmen in first-aid is entirely justified by purely economic considerations.

"CLUES" TO STIMULATE SUGGESTIONS

NEW ideas are essential to the success of every organisation. But many employers, unfortunately, fail to profit from the suggestions of their employees. Suggestion boxes are sometimes set up in the works; but these frequently remain empty. What is the remedy to this apparent indifference on the part of employees?

Frequently, the cause of the trouble is the employer himself. A suggestion system is started, and employees are urged to send in ideas which will help reduce costs, increase output, promote safety, and so on. As long as the suggestion scheme is a novelty, a satisfactory number of ideas may come in. But once the novelty wears off, the suggestion boxes continue to remain empty week after week. Lethargy soon sets in, and the suggestion scheme, which seemed full of promise at the outset, is soon forgotten.

The remedy is to provide workmen with "clues" from time to time for SPECIFIC ideas. Instead of inviting suggestions on broad and often vague subjects which mean very little to the average workman, the latter should be asked to give his thought to the solution of CONCRETE problems which he can readily grasp.

One way of doing this is through the Suggestions Committee. This committee should be promptly and regularly informed by every supervisor in the organisation of the problems or bottle-necks encountered in his department. These problems should all be listed by the Suggestions Committee and publicised to the workers for solution. It is important, however, that not more than two or three problems are presented each week or fortnight.

If the Suggestions Committee happens to have a large number of "clues" on its files, as is likely to be the case in a typical modern organisation, the policy should be to present "clues" on two or three different types of problems—one problem, say, dealing with a specific production bottle-neck, another with the accident hazards involved in a *particular* job, a third with the design of an individual part, and so on. Variety in this respect usually yields better results than if suggestions are invited on one subject only.

There is, of course, no limit to the subjects on which suggestions may be invited; for every policy and process (whether it relates to manpower, machinery, materials, methods, manufacture, or marketing) is capable of being improved upon. The essential point, however, is to bring these subjects down to brass-tacks before inviting suggestions on them.

It is doubtful whether you will receive many ideas from your worker on the subject of (say) Production Methods. But it is fairly certain that you will get numerous suggestions on the improvement of a *particular* method which is in use and which has been found to be unsatisfactory; for the workers now have something concrete on which to exercise their thought and imagination.

* * *

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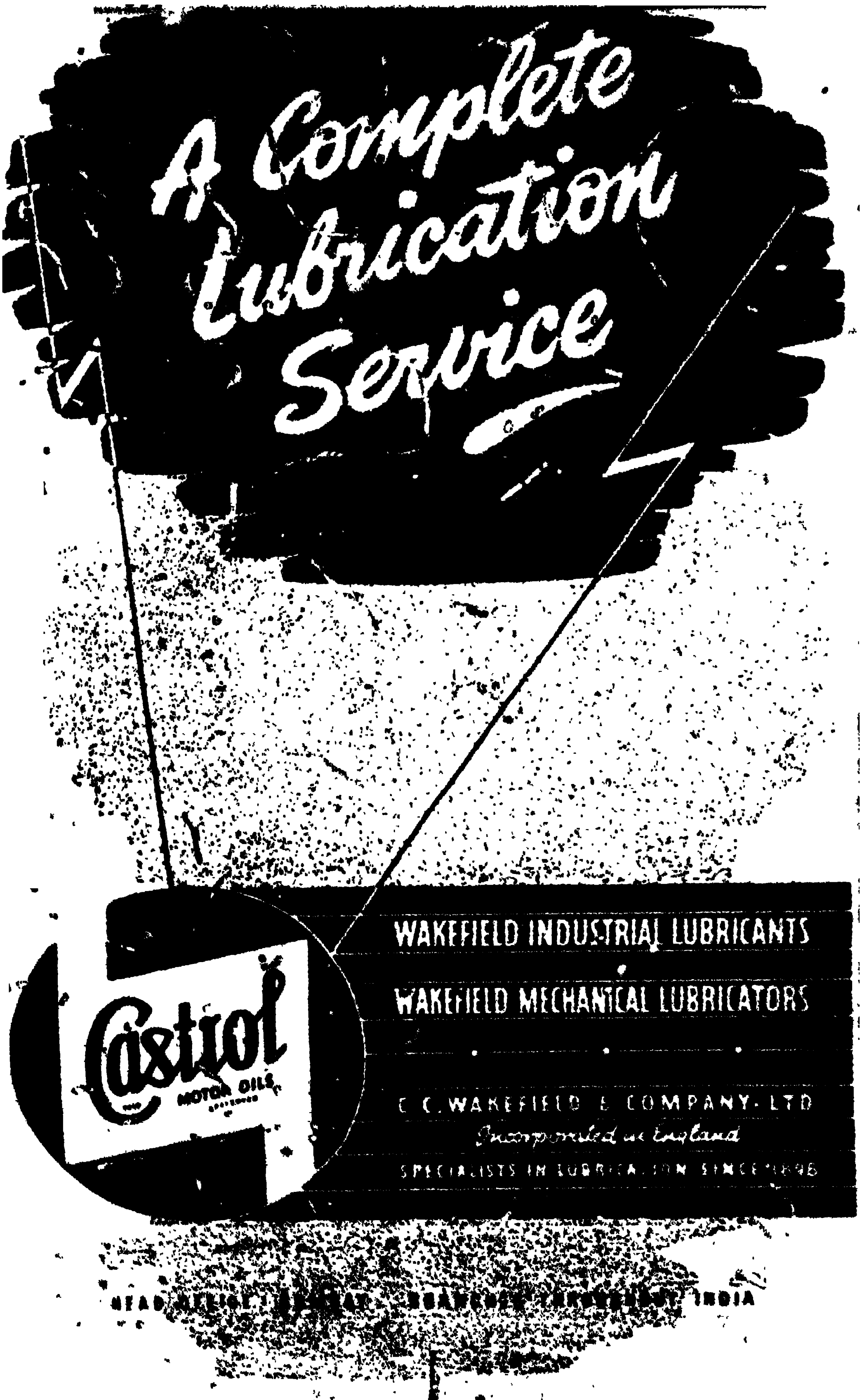

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